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DEPARTMENT OF COMMERCE
BUREAU OF FISHERIES
HUGH M. SMITH, Commissioner

FISHERY INDUSTRIES OF THE UNITED STATES

REPORT OF THE DIVISION OF STATISTICS AND METHODS OF THE FISHERIES FOR 1919

By LEWIS RADCLIFFE
Assistant in Charge

APPENDIX X TO THE REPORT OF THE U. S. COMMISSIONER OF FISHERIES FOR 1919

Bureau of Fisheries Document No. 892

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GOVERNMENT PRINTING OFFICE
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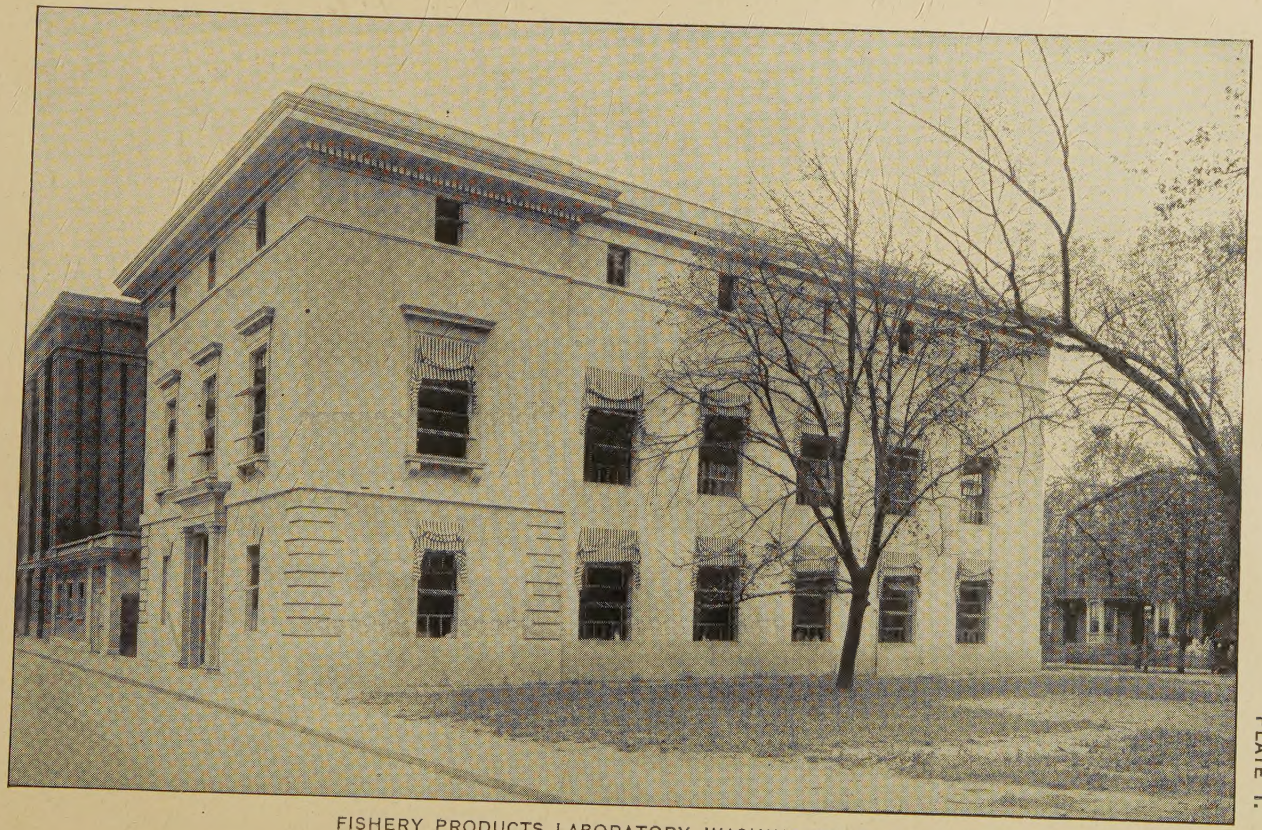


FISHERY PRODUCTS LABORATORY, WASHINGTON, D. C.

FISHERY INDUSTRIES OF THE UNITED STATES.

REPORT OF THE DIVISION OF STATISTICS AND METHODS OF THE FISHERIES FOR 1919.

By Lewis Radcliffe, *Assistant in Charge.*

INTRODUCTION.

On the basis of canvasses of the fisheries made in the last decade, the present annual production of fishery products in the United States, including Alaska, is estimated to be about two and one-half billion pounds, valued at approximately 80 million dollars to the fishermen,[1] an industry employing more than 200,000 persons. For the fiscal year ended June 30, 1918, the value of the imports of fishery products was $26,268,014 and of exports, $57,017,427.

Among the important functions of the Division of Statistics and Methods of the Fisheries of the Bureau of Fisheries in its relations with the commercial fisheries are the following: (1) Studies of the methods of conducting fishing operations for the purpose of effecting improvements and revealing the use of unnecessarily destructive or unprofitable methods; (2) the development of improvements in the methods of handling, distribution, and marketing of fishery products; (3) technological investigations of the underlying scientific principles governing the preservation of fishery products in order to standardize methods and effect improvements and economy of operation, to determine feasibility of preserving fishery products by untried methods, and to discourage the use of unsatisfactory, wasteful, or uneconomical practices; (4) to introduce useful foreign methods or processes of capture, preservation, and utilization of fishery products; (5) to develop the use of the by-products of the fisheries and the unutilized products of the sea to the greatest economic advantage; (6) to increase the demand for the little used or neglected fishes and fishery products for food; (7) to collect the statistics of the fisheries and fishery industries; (8) to study the vessels and boats employed, for the purpose of effecting improvements; (9) to study and develop fishing grounds and fisheries for hitherto unutilized fishes; and (10) to disseminate information bearing on the commercial fisheries. For the conduct of its work in these fields during the fiscal year beginning July 1, 1919, Congress appropriated $15,000.

SUMMARY OF OPERATIONS.

During the year the Bureau has aided in the development of fisheries for black drum, sharks, and porpoises and in increasing the

[1] The value of Alaska's fishery products in 1918 as prepared for market was $59,154,859, but the estimated value of the fish to the fishermen was only about $11,000,000, which is the amount included in the estimate given above.

use of black drum, grouper, mussels, red drum, whale meat, and other neglected fishery products for food. By means of practical demonstrations and lectures, many persons have been more fully acquainted with the dietetic qualities of fish, have been encouraged to use this wholesome food in larger quantities, and have been shown that certain of their prejudices against its use were without foundation.

Efforts to increase the use of the by-products of the fisheries to the most economical advantage have been continued. The more extended use of fish and shrimp waste, its manufacture into fish meal as an animal feed, the use of the hides of sharks, porpoises, and other unutilized aquatic animals for leather, the drying of shark fins for the oriental trade, and the like have been encouraged. Analyses have been made of the liver oils of several species of sharks, of tuna oil, etc., to determine more definitely their individual properties and the uses to which they appear best suited.

The construction of the Fishery Products Laboratory in Washington, begun in December, 1918, was completed the following June, and the equipment of it is practically complete. Various important investigations have been inaugurated, such as a technological study of the methods of salting fish, experiments in the recovery of old salt and brine for reuse, a preliminary examination of some of the features of foreign methods of freezing fish in brine, development of possible methods for the production of essence d'Orient from the scales of native fishes, and some preliminary tests of the practicability of putting noncommercial sponges to commercial uses. At its experimental laboratory at San Pedro, Calif., methods of canning the Pacific coast mackerel have been developed, considerable attention has been given to canning other local fish, such as barracuda, bonito, and rockfishes, and the fishing industry of that coast has been given all possible assistance.

Detailed statistics of the vessel fisheries centering at Boston and Gloucester, Mass., Portland, Me., and Seattle, Wash., have been collected and the results published in the form of monthly and annual bulletins for trade use. A statistical canvass of the coastal fisheries of the South Atlantic and Gulf States for the calendar year 1918 was begun early in 1919 and nearly completed by the end of the year. In addition, canvasses of the shad fishery of the Hudson River for 1919 and of the shad and river herring fishery of the Potomac River, also for 1919, have been made. With the exception of the coastal fisheries of the South Atlantic States, the present report contains the results of these canvasses, together with the detailed tables of the canvass of the fisheries of the Great Lakes for the calendar year 1917 and the fishery products received at the Municipal Fish Wharf and Market, Washington, D. C., for 1919. Statistics of Alaska fisheries are collected annually and published in the Bureau's annual report on Alaska Fisheries and Fur Industries.

The inadequacy of the present personnel for this division's part of the Bureau's work has called for the maximum of service from its members to complete the program outlined above. This has been given loyally at a time when higher compensation and much more adequate returns for their labor could have been obtained elsewhere.

AID IN DEVELOPMENT OF FISHERY FOR BLACK DRUM.

The black drum (*Pogonias cromis*) is a predacious fish, very destructive of oysters, particularly on cultivated beds, where the oysters occur singly and may the more readily be seized and crushed. This species is quite common on the South Atlantic and Gulf coasts, migrating northward along the coasts of the Middle Atlantic States in summer. It not uncommonly reaches a weight of 60 pounds or more. Complete data as to the movements of the fish and the possibility of establishing a regular fishery have been lacking, and the demand for the fresh fish has been insufficient to care for the catch. In fact, the fishermen frequently avoid taking it in their nets. An examination of samples of canned black drum indicates that it is excellent for this purpose, resembling the meat of poultry.

Wishing to provide persons interested in the development of the fishery with more detailed information as to localities in which the fish might be taken in commercial quantities and as to seasons of abundance, an assistant was detailed to visit the principal fishing centers on the Gulf coast. On the Florida coast south of Tampa the black drum is reported to be plentiful for about four months of the year, beginning with April, and at Cedar Keys, throughout the year, being taken principally in Withlacoochee Bay, on Port English, and Waccassassee and Suwanee Bars. Cedar Keys would, therefore, appear to be the most promising point on the Florida coast for a fishery. To the westward conditions are less favorable, the fish being very scarce at Pensacola. At Mobile, Ala., the fish is said to be plentiful throughout the year, but up to the present season there had been no demand for it. At Biloxi and Gulfport, Miss., it is scarce; in Louisiana waters some are taken throughout the year, but no large schools are observed. At Galveston, Tex., a few are taken in all months. Corpus Christi supports a fishery, but the demand has lately fallen off as a result of publicity wrongly intimating that the fish were unfit for food. At Point Isabel about 70 per cent of all fish taken are reported to be drum. These are taken throughout the year with pocket nets; that is, drag seines provided with pockets. The seines are 300 to 500 feet long of No. 24 cotton twine, $1\frac{3}{4}$-inch bar mesh. Point Isabel appears, therefore, to be the most promising place on the Gulf for a fishery. Fish from this point and from Mexico are re-iced and shipped to market from Brownsville, Tex., the fishermen receiving about 2 cents per pound for the catch.

INCREASING THE USE OF FISH AS FOOD.

DEMONSTRATIONS IN FISH COOKERY.

In previous reports attention has been called to the practical demonstrations and lectures in fish cookery initiated by the Bureau in May, 1918. These were intended to extend the use of cheaper, more abundant species in each locality, to introduce appetizing, inexpensive methods of cooking fish while conserving labor and eliminating the use of expensive cooking fats and oils, and to encourage the use for food of parts of the fish usually discarded. At the beginning of 1919, the holdings of fish in the cold storages of the country were about double normal, with the result of imminent danger that large quantities of these fish saved during the war period would have

to be destroyed for lack of markets. On this account demonstrations on the west coast were brought to a close in January, 1919, and the demonstrators detailed to the middle west, giving a series of demonstrations in St. Louis, Chicago, Minneapolis, St. Paul, Cincinnati, and Cleveland. At these meetings special attention was directed to the value of frozen fish for food, particularly to the little-known varieties with whose merits the average housewife was unacquainted.

A successful series of demonstrations was later given in Boston and Cambridge, Mass. To enable local agents of the States Relations Service of the Department of Agriculture to profit from training in this field and extend its benefits to their respective communities, one of the Bureau's assistants gave demonstrations in Key West, Miami, West Palm Beach, Titusville, and St. Augustine, Fla.; in Savannah, and Valdosta, Ga.; at the Agricultural and Mechanical College of Mississippi; and before a gathering of State agents in Washington, D. C.

It is the consensus of opinion, as attested to verbally and by letter by those attending the demonstrations, that the housewives are very grateful to their Government for its interest in their problems of providing wholesome protein food at low cost. The value to the trade, as evidenced by reports of increased demand for fish in places in which demonstrations have been given, is well vouched for. During the year in which this work was conducted more than 125 demonstrations were held, by means of which approximately 15,000 persons were reached directly and many more indirectly.

In reviewing the work, consideration should be given to the fact that protein is the high-priced element of food; that fish compares favorably in protein content and digestibility with meats; that our estimated annual per capita consumption of meat is more than 160 pounds, while that of fish is only about 18 pounds; and that our fisheries annually yield millions of pounds of food fishes which are not so marketed, due in large part to lack of demand by the consuming public. Although the value of these demonstrations has been attested by the consumers, home demonstration agents, the trade, and others, and although the Bureau has been urgently requested to continue this work, it was compelled to abandon it in June for lack of funds.

In addition to the practical demonstrations in the field, experiments have been made to determine the best methods of preparing various fishery products for the table. This has been confined largely to products with which the housewife was little acquainted. Such information has been supplied directly to the trade or used in the preparation of economic circulars. A cookbook on fishery products has been prepared, but will be broadened in scope before it is published.

GROUPERS.

The groupers occur in abundance on the east coast of Florida and on the snapper banks in the Gulf of Mexico, where they outnumber the more highly prized red snappers. Until quite recently the snapper fishermen were required to limit their catch of grouper to from 10 to 25 per cent of the fare because of lack of demand. Gradually this percentage was increased until during the war period, when the number of vessels operating and men engaged were considerably reduced,

the demand equaled or exceeded the catch. With the return of men and vessels to the fishery, production again exceeded demand.

With the object of preventing needless waste of these fish and increasing efficiency of operations with reduction in cost of product to the consumer, the Bureau undertook to develop larger markets which would absorb the entire catch. For this purpose it issued an illustrated placard recommending these firm, white-meated fish and an economic circular containing recipes for preparing them for the table, and detailed an assistant to aid in encouraging the use of these fish in cities in the South. In this campaign particular attention was given to encouraging dealers to handle the groupers, to instructing them in the best methods of preparing the fish for sale, and to increasing their use by restaurants and cafés. Groupers are usually shipped headed and gutted. For sale to the consumer it appears desirable to skin the fish and remove the fins. They are then suitable for filleting. These operations, as described in Economic Circular No. 44, follow:

Lay the fish on its side, with the head end pointing toward you and the back toward the knife hand (the hand with which the operator uses the knife). Insert the knife to a depth of 1 to 1½ inches behind the end of the back fin and draw the length of the fish, cutting close to the fin, thus severing the skin and the flesh from tail to head.

Turn the fish end for end, laying it on its other side, and repeat as above, drawing the knife along the length of the fin from the head to the tail. Using a piece of burlap to prevent the hand slipping, or a pair of pliers, catch the back fin at the front end and pull it out.

Turn the fish, tail pointing from you and the belly toward the knife hand. Grasp the pectoral fin, the fin just back of the gills, in the free hand and thrust the knife into the fish just back of it and cut both ways. The collar bone, which is thus cut loose, is removed by pulling on the fin. The small, thin bone remaining, which connects the hide and meat, is removed with a stroke of the knife. Repeat the operation on the other side.

Turn the fish, tail pointing toward you and the belly toward the knife hand. Complete the splitting of the fish, and remove the belly fins. With pliers or a piece of burlap catch the corner of the hide at the head end nearest the back and strip off by pulling toward the tail. Repeat the process for the other side and complete the removal of the skin and tail by a stroke of the cleaver at the base of the tail fin.

It appears that the results which the Bureau expected to accomplish have in a measure been negatived by other factors, such as labor difficulties.

INCREASING THE USE OF BY-PRODUCTS OF THE FISHERIES.

The development of uses for the by-products of the fisheries and the unutilized products of the sea to the greatest economic advantage represents one of the most promising fields for research and for increasing the Nation's resources open to the Bureau. Although handicapped through lack of provision for the permanent employment of an adequately trained technologist and for funds, it has continued its efforts in this field in so far as its limited facilities will permit and has achieved results cited in the following pages which indicate the importance of the work and the possibilities of saving fishery products possessing a value many times the cost of the service. Among its activities mention should be made of the results of its efforts to increase the use of fish waste and waste fish for conversion into oil and scrap for fertilizer, to encourage the production of fish and shrimp meal as an animal feed, the use of the hides of fishes and other unutilized aquatic animals for leather, the development of a fishery for sharks, and the reestablishment of fisheries for porpoises, sea lions, hair seals, and other unutilized aquatic animals.

FISH OILS.

The demands and uses for fish oils are increasing and the prices are unusually high. Among the various uses are the following: Drying oil in paints and varnishes, stuffing grease for leather, in soap-making, lubricating compounds, tempering steel, screw-cutting, and cordage manufacture, for medicinal and illuminating purposes, in the manufacture of rubber substitutes, top dressings for automobile tops, awnings, tents, and the like, in lard substitutes, etc., after hydrogenation.

In recent years the annual production of fish oils has ranged from about 5 to 6 million gallons. Of this, more than half is menhaden oil, whale, sperm, and herring oil being produced in appreciable quantities with smaller amounts of other oils, such as cod liver, shark liver (including dogfish), salmon, tuna, sardine, porpoise blubber and jaw oils, seal, and walrus. Imports entered for consumption for the fiscal year ended June 30, 1918, amounted to 4,881,982 gallons, valued at $3,638,749, and exports in that year were 455,629 gallons, valued at $446,589.

Realizing the importance of determining more definitely the special properties of those oils for which such information was lacking, to indicate the uses to which they are best suited, the Bureau has made analyses of the body and liver oils of species of sharks, of skate-liver oil, tuna and yellowtail oil, and has furnished the educational bureau of the Paint Manufacturers' Association of the United States various samples of fish oils for analysis and trial as to suitability for use in the manufacture of paints and varnishes.

Albacore or tuna (*Germo alalunga*) oil is particularly interesting because of its excellent drying qualities. It possesses very little unsaponifiable matter and little odor and is pale in color. Drying tests made by the director of the educational bureau of the Paint Manufacturers' Association of the United States showed that it dries even more rapidly than linseed oil. The 1919 production of albacore (*Germo alalunga*), yellowfin tuna (*G. macropterus*), and bluefin tuna (*Thunnus thynnus*) oil in southern California is estimated to exceed 100,000 gallons. An analysis of the albacore oil gave the following results: Specific gravity at 15.5° C., 0.9298; acid value, 0.24; saponification value, 195.9; iodine value (Hanus), 184; refractive index (40° C.), 1.4755; titer test of fatty acids in degrees centigrade, 20.8°; neutralization value of fatty acids, 182.5; mean molecular weight of fatty acids, 307; total unsaponifiable matter 0.80 per cent. Tests with the oil of the yellowtail (*Seriola dorsalis*) indicated that it was fully as satisfactory for the manufacture of paints as menhaden oil, but not as good as the albacore oil. Its color was light and its odor not strong.

There is need for more exhaustive investigations of fish oils, for determining definitely the qualities of the oils of various species of sharks, skates, and other fishes serving as sources of supply of fish oils; for determining more definitely the possibilities of hydrogenating fish oils for use for edible purposes, their nutritive values based on investigations by experts in vitamines, etc. On the subject of hydrogenation, Bulletin No. 769 of the United States Department of Agriculture, February 10, 1919, page 39, states:

> Recently a refining process in which hydrogen instead of steam is used to blow the oil has been developed. It appears that it is now possible to remove the disagreeable

odor and flavor from some kinds of fish oils and render them suitable for food. For several years whale and possibly some fish oils have been hardened by hydrogenation in Norway and Germany, and within the last six months a lard substitute made in this way from Pacific coast herring has appeared on the American market.

Before the war whale oil was being hydrogenated in Norway, the Netherlands, and Germany, and a plant is now in operation in England capable of caring for all whale oil likely to arrive. The hardened fat is white, odorless, and tasteless. It is used as a substitute for tallow and the best quality for margarine.

FISH SCRAP.

The annual production of scrap for fertilizer will approximate 60,000 tons. In 1918, on the basis of available data, the production of menhaden scrap amounted to nearly 50,000 tons, that of sardine, salmon, tuna, etc., on the west coast, including Alaska, to more than 2,300 tons (exclusive of fish meal), and that of the Alaska whale fishery to 850 tons. Additional material is produced in New England, especially in connection with the fishery for sardines and herring; in the States bordering on the Gulf of Mexico, principally from shrimp waste; on the Great Lakes, etc. The use of sardines for conversion into oil and scrap or meal on the coast of southern California appears to be on the increase, over 33 million pounds having been reported so used in 1919. It is reported that a ton of sardines will yield up to 25 gallons of oil and 500 pounds of meal or scrap.

Persons in the fisheries have been encouraged to save their fish waste and have been furnished information regarding methods and machinery. To care for the comparatively small quantities of waste, there appears to be need for an efficient and inexpensive plant—one that is capable of reducing the oil content of the scrap to a low percentage.

FISH MEAL.

To meet the increasing demand for protein feeds for hogs, cattle, and poultry, the Bureau has continued to urge upon the manufacturers employing fish waste the importance of using such of their products as are suitable for manufacture into fish meal. As the menhaden industry affords the greatest prospective source of supply, particular attention has been given to this field. The shrimp fishery of the south Atlantic and Gulf States is another promising field, in which until recently not more than 50 per cent of the waste has been used. One of the Bureau's assistants who visited this field during the year estimates that this industry is capable of yielding from 7,500 to 10,000 tons of raw waste, equivalent to from 1,500 to 2,000 tons of scrap or meal per annum. At the time of his visit, this waste was not being utilized in the Apalachicola and Fernandina (Fla.) districts, nor in the St. Marys and Brunswick (Ga.) section, districts which should supply about three-eighths of available material. The bulk of that now saved is in the Barataria Bay district, the center of the shrimp-drying industry, in which the shrimp are sun-dried on large wooden platforms. The heads and shells are a by-product. It is believed that the successful solution of the problem will require the use of rotary driers, and at least three companies made provision during the year for the saving of this material.

Samples of shrimp meal analyzed contain from 43 to 56 per cent protein. Following is an analysis of one sample:

	Per cent.
Moisture	5.03
Ash	29.89
Fat (ether extract)	3.62
Protein	47.44
Undetermined	15.02

The Bureau of Animal Industry of the United States Department of Agriculture has cooperated very effectively with the Bureau in this field in the conduct of feeding experiments with fish and shrimp meals to hogs and in directing the attention of hog growers to the value of these products as feeds, thus rendering material aid in assuring those in the fisheries of a market for their product. In an experiment of the Bureau of Animal Industry, conducted at the Government Experiment Station, Beltsville, Md., in which two lots of 15 pigs were fed fish meal and shrimp meal for a period of 91 days the results indicated that shrimp meal was fully the equal of fish meal. It is believed that elements other than the proteins, such as the mineral elements, vitamines, etc., tend to enhance the value of this material.

Grayfish meal has been furnished the Bureau of Animal Industry for a feeding test, the results of which were comparable to those obtained by feeding with menhaden meal. Although the grayfish meal contained a high percentage of oil, no flavor of fish could be detected in the flesh of the hogs killed at the end of the feeding experiment. Arrangements are being made for additional feeding tests to ascertain more definitely the safety with which meals containing a high oil content or made from decomposed materials may be used.

The American consul at Odense reports that in Denmark a shellfish meal made from the blue mussels which are found in large numbers along the Danish coast is now on the market in that country as a poultry feed and has proved very satisfactory for increasing egg production. An analysis of the dried meal made at an agricultural experiment station quoted from Commerce Report No. 32 February 7, 1919, follows:

Lime (in the form of ashes), 71.41 per cent; sugar, starch, and other organic matter 13,21 per cent; nitrogenous matter, 11.64 per cent; fats, 1.68 per cent; and water 2.06 per cent.

Comparatively little fish meal was produced in this country prior to 1914. Beginning with that year the production on the west coast has steadily increased, the 1918 production of the coastal States and Alaska being about 8,684 tons. An assistant who visited the principal centers of production in southern California during the year reports no differences in character of material or process of manufacture of meal or scrap except in a few instances in which the ground scrap is called meal. Until more detailed information is available regarding the results of feeding fish meal it is believed that only fresh waste should be used in its manufacture and badly decomposed waste made into scrap for fertilizer. Some kinds of meal do not require grinding. This is stated to be the case for meal made from sardines in which the steam, or so-called batch, drier is used. If a hot-air drier is employed, grinding may be necessary to reduce the materia

to the proper degree of fineness and to break up any small, sharp-pointed bones or spines. This was found necessary for menhaden meal. The most practical type of grinder for breaking up such bones appears to be the swing-hammer type, in which swinging hammers revolving at about from 2,500 to 3,000 revolutions per minute knock the material against a screen.

As evidence of the results of the Bureau's efforts, it may be added that in the menhaden and shrimp industries about 2,500 tons of meal were produced in 1919 and no difficulties in marketing it at reasonable prices reported. It is believed that the present annual production of meal from fishery products approximating 10,000 tons may be doubled without difficulty and with improvements which will keep menhaden fresh until they reach the factory at least trebled. It may be noted that a classification for fish meal is in effect in the three classification territories of the railway companies, and class rates on this commodity between given points are obtainable by application to the proper railroad officials.

FISH LEATHER.

The work of the Bureau in encouraging the development of a fish-leather industry has resulted in important progress in this field. The tanning of the hides of sharks and rays into leather which is soft and pliable and of ample strength for many uses is now an established fact, and keen interest is being shown in the development of fisheries for these forms to make available regular supplies of basic materials in quantity production. The use of the hides of porpoises, whales, sea lions, and other unutilized aquatic animals is also increasing. One tannery is now devoted to the production of fish leather, a second is in course of construction, and others are preparing to engage in the industry.

SHARK FINS.

The Bureau has been instrumental in the saving and drying of shark fins, which are a delicacy highly prized by orientals. In one city in this country the demand now exceeds the supply, the best grades commanding from 65 to 75 cents per pound.

The trade is furnished with descriptive matter for the preparation of the various by-products, oils, scrap, meal, hides for the tanner, and fins, and with information as to where the various commodities may be marketed.

TECHNOLOGICAL INVESTIGATIONS.

In the 1918 report attention was called to the construction and equipment of a Fishery Products Laboratory in Washington for the conduct of technological investigations in the fisheries. Although its activities have been greatly restricted by the limited personnel and provision for the work, the results achieved in the investigations regarding the salting of fish, the studies of fish oils, recovery of used brine and salt, preliminary studies of the production of essence d'Orient from fish scales, and the different methods of refrigeration, the direction of the investigations in the canning of fish in southern California, and provision for the proper handling of minor problems, have emphasized the need for the conduct of such work on a larger

scale. The sundry civil appropriation act of July 19, 1919, contains provision for an additional assistant for the Fishery Products Laboratory, but in the examination held before the end of the calendar year no applicant qualified.

DETERMINATION OF PRINCIPLES OF PRESERVATION OF FISH WITH SALT

Recent reports have contained reference to the technological investigations on the preservation of fish with salt, initiated for the purpose of determining the basic principles governing this method of preservation, to effect improvements in present practices, and to develop satisfactory methods of salting fish at higher temperatures and therefore in warm climates. The preliminary investigation has been completed and the results published in Bureau of Fisheries Document No. 884, "Some Considerations Concerning the Salting of Fish," by D. K. Tressler. A brief summary of some of the results follows:

On the assumption that the more rapidly salt penetrates the flesh of fish the sooner will decomposition be stopped, the first work aimed to determine the rate of penetration of salts of different qualities into the flesh, the squeteague being used. Small amounts of calcium chloride or magnesium chloride retarded the rate of penetration of pure salt (sodium chloride), but produced a firmer, whiter fish than the pure sodium chloride. Other impurities, such as the sulphates, had a similar though less noticeable effect. In this connection it may be of interest to note that analyses of commercial salts reveal the fact that they vary greatly in purity. Solar salts are of lesser purity than salts prepared by evaporation in open or vacuum pans, and most domestic salts are of greater purity than foreign salts available in large quantities. The purest brands obtainable at reasonable cost contain between 99.5 and 99.75 per cent of sodium chloride.

As the rate of penetration in itself was an insufficient index of the keeping qualities it was considered essential to provide some means of measuring the amount and rate of decomposition of protein in order to determine the amount of decomposition taking place in the course of salting any lot of fish, and thus test the value of the various methods. Having salted fish with prepared salts containing different amounts of the common impurities (calcium, magnesium, and sulphates), the rate of protein decomposition was estimated by determining the amounts of amino-acid nitrogen formed. In this manner the preservative action of the various salts on the protein of the fish was estimated. Calcium and magnesium salts and sulphates cause an increase in decomposition and therefore produce a less perfect preservation of the fish during salting. This reveals the importance of selecting brands of salt low in these impurities for salting fish in warm climates. For salting at temperatures below 50° F. it is possible to exercise a measure of control in producing fish of the desired quality by the use of salts having a high percentage of calcium and magnesium if a hard, white fish is desired and pure salts if a soft, pliable fish is wanted. The degree of fineness of the salt is considered of little importance save in a physical way.

A comparison was made as to the relative efficiency of the two general methods of salting fish, viz, by the use of dry salt or brine and salt, by determining the rate of penetration of salt into the flesh of fish salted by each method and the rate of protein decomposition. These experiments showed that the salt penetrates more rapidly in the dry-salted fish than in the fish in pickle and that more amino acid was formed by the brine method. The dry-salt method is apparently the more economical of both salt and labor.

In addition, experiments were made to determine the effects of a more thorough cleaning of the fish before salting, the rate of formation of amino-acid nitrogen being used to indicate the rate of protein decomposition. River herring cleaned by various methods were salted at high temperatures. All except those from which all roe or milt and blood had been removed spoiled, the thoroughly cleaned fish being successfully salted at 88° F. From these experiments it was concluded that the chief cause of spoilage during salting is due to the decomposition of the blood remaining in the flesh.

The rate of penetration of salt into skinned fish was found to be about double that in the unskinned fish, thus revealing the importance of splitting fish before salting

Experiments made in salting fish of various degrees of staleness showed that the length of time a fish may be kept before salting depends upon the temperature to which the fish are subjected before and during the salting period, and that at some temperature between 50 and 60° F., or higher, fish spoil very quickly.

The following are important considerations in the salting of fish in warm climates: All viscera and blood should be removed in cleaning, large fish should be split, the fish salted should be in a fresh condition, no brine should be added, and salts low in calcium should be selected.

At the close of the year plans were being perfected for the practical application on a somewhat larger scale of the results obtained in these small-scale laboratory experiments to determine more definitely the manner in which these results may be applied with profit to the industry. These plans include the salting of river herring at points in Florida where usual practices have previously proved a failure. In addition to the work outlined above, some attention has been given to the chemical changes in the fat content of fish.

FREEZING FISH IN BRINE.

Refrigeration as a means of preserving fish promises to play an increasingly more important rôle in the fishing industry. In this connection there exists a feeling that more of our energies hitherto expended in perfecting refrigeration machinery and methods should be applied to effecting improvements in the quality of the product and in educating the consumer to its merits, its care, and preparation. In Europe the process of freezing fish in brine has of late been receiving considerable attention, and the use of the method is increasing. Brief mention of the subject may therefore be of interest to those engaged in the industry in this country.

Fundamentally the process consists of immersing the article to be frozen in a strong brine which has previously been cooled to, or nearly to, the point where mush ice begins to form in the solution. That the freezing temperature of brine is lower than that of water and that the freezing temperature of the brine is lowered as its saturation point is approached is well known. At present there are at least two processes employing the brine method, one known as the Dahl method, originated by Nekolai Dahl at Trondhjem, Norway, and the other the Ottesen method, by A. Ottesen, Thisted, Denmark.

By the Dahl process, the fresh fish are packed in the shipping boxes before being frozen. Cold brine, which has had its temperature lowered, by contact with crushed ice, to a point approaching its freezing point is pumped through the boxes of fish, flowing back through the ice for recooling. By this means the fish are frozen quickly and the boxes may be headed and put in transit at once. The plant consists of (1) a chamber for cracked ice, with compartments so arranged that the brine passes through ice always in a downward direction into a brine compartment; (2) a centrifugal pump which receives the cold brine and discharges it through a delivery hose into the boxes of fish; (3) a freezing platform on which the boxes rest, provided with troughs for conducting the brine back to the ice chambers for recooling.

In the Ottesen plant the fish are placed in perforated, galvanized-iron baskets, which are submerged in the brine, or, if the fish are of large size, they may be suspended in the brine chamber until frozen. In its simplest form the equipment consists of an insulated iron

freezing tank holding the brine and provided with a propeller (or agitator) and guide plates with sluices for circulating the brine, also a carbon-dioxide refrigerating unit; metal baskets for holding the fish in the brine and galvanized-iron ice cans and wash tank complete the equipment.

Among the advantages claimed for the brine-freezing method, mention may be made of the following: (1) Fish can be frozen much more quickly—in one-tenth of the time or less—than in air freezing; (2) brine-frozen fish retain the flavor, appearance, and other qualities of fresh fish; (3) in slow air freezing the tissues are partially broken down through the formation of large ice crystals, while in rapid freezing the ice crystals formed are so small as not to disrupt the muscle fibers; (4) there is no loss of weight in freezing through evaporation; (5) the equipment takes up little space, without the necessity for a special freezing room, and is adaptable for use on fishing vessels; and (6) there is no tendency for the brine to penetrate the fish or for its juices to enter and weaken the brine.

As the Bureau has not conducted exhaustive experiments in the brine freezing of fish it is not prepared to express an opinion with regard to the value of the method or as to its probable place in the industry. The Bureau's Fishery Products Laboratory in Washington is equipped for conducting proper investigations in air and brine freezing to determine the relative merits and defects of the two methods. It is desirous of doing this investigative work as soon as adequate provision can be made therefor.

INVESTIGATIONS IN CANNING FISHERY PRODUCTS IN SOUTHERN CALIFORNIA.

For years the Bureau has been impressed with the need for rendering those engaged in the preservation of fish by canning a larger measure of service, work which promised to make larger supplies of wholesome protein food available to the consumer and to reduce the cost of that which was being produced. In the summer of 1918 it concluded to initiate such investigations on the coast of southern California and to equip a small plant for the purpose. The immediate object of the work was to develop suitable methods for canning some of the neglected or little-used fishes occurring in abundance in that region and to aid the packers in solving their problems and difficulties. After a study of the principal fishing centers it was decided to start the work at San Pedro, where suitable quarters for housing the equipment were obtained, the necessary equipment provided, and the work begun about May 1, 1919.

A study of canning methods in commercial practice revealed wide differences in the processes used. For example, it was found that the time period and temperature of retorting varied in the different plants. Some used compressed air in the retort when cooling; others did not. Some employed superheated steam exhaust boxes; others no exhaust at all. In some instances large driers of considerable length, equipped with traveling chain-belt conveyors, high-power fans, and an elaborate air-distribution system, were in operation; in others short driers, making use of high temperatures, were employed. One canner holds his pack for a period for ageing; another ships the goods as soon as they are put up. The practices

have been developed in many cases at heavy cost without a definite understanding of the underlying principles and adequate control of the results. These factors do not make for uniformity of pack and have added materially to the cost of production and therefore to the price of the product to the ultimate consumer. In addition, some species of fishes which were abundant were not being canned for the lack of development of suitable methods. The two major functions of the work were, therefore, to develop new methods and to establish standard methods which will yield standard products.

The Pacific coast mackerel (*Scomber japonicus*) is present in large numbers on the southern California coast, being particularly abundant from June to December, inclusive. The principal fishing centers are Monterey, San Pedro, and San Diego. Because of the lack of demand, little attention has been given to the development of the fishery, considerable quantities of that brought in going to the reduction works. In 1918 the Bureau conducted experiments in salting this fish, which indicated that in color and flavor it was hardly the equal of the usual run of salt mackerel on the market. Because of its abundance, favorable food qualities, and lack of demand for it for food purposes, the laboratory has given more attention to perfecting methods of canning this fish than to any other. More than 80 different packs have been put up for examination and several methods of promise developed. The packers have been interested in the results achieved to such an extent as to urge the release of the better methods. This has been granted with the understanding that final tests have not been completed. The California pack of mackerel in 1919 exceeded 9,000 cases, and the increasing interest and tendency of the packers to handle this fish indicate a much larger pack in the future.

In addition to the experiments with mackerel, bonito, barracuda, pilchard, sea bass, smelt, the tunas, and yellowtail have received attention, and several hundred packs of the various species are being held in storage for examination at fixed intervals. Among the problems needing solution are the development of means for overcoming the unpleasant odor and taste encountered in packs of bonito and the detinning of the cans in packs of such fishes as the barracuda. The work done and the interest shown by the trade seem but to accentuate the need for a continuation of investigations in this field.

NEW ENGLAND VESSEL FISHERIES.

The vessel fisheries centering at Boston and Gloucester, Mass., and Portland, Me., were in a prosperous condition during the past year, although the total number of trips and the catch were not so large as in the previous year. The decrease in the number of trips was largest at Gloucester. The products landed at Boston fell off 5.55 per cent in quantity and 28.45 per cent in value, at Gloucester 3.78 per cent in quantity and 29.94 per cent in value, and at Portland less than 1 per cent in quantity and 21.76 per cent in value. The fisheries were affected to some extent, no doubt, by the economic changes following the war period and also by unsettled labor conditions. A strike of the fishermen in July and August resulted in a large falling off in the catch landed by the fishing fleet in those months as com-

pared with that usually landed at that time of year. Statistics of these fisheries have been collected by the local agents and published in monthly bulletins, showing, by species and fishing grounds, the quantities and values of fishery products landed by American and Canadian fishing vessels during the year at these ports. Two annual bulletins have been issued, one showing the catch by months and the other by fishing grounds.

The fishing fleet which landed fish at these ports during the calendar year 1919 numbered 523 sail, steam, and gasoline screw vessels, including 25 American and 2 Canadian steam trawlers. These vessels landed at Boston 2,754 trips, aggregating 103,391,370 pounds of fish, valued at $4,713,350; at Gloucester, 2,965 trips, aggregating 71,370,957 pounds, valued at $2,145,592; and at Portland, 2,550 trips, aggregating 21,718,943 pounds, valued at $689,441. The total for the three ports amounted to 8,269 trips, aggregating 196,481,270 pounds of fresh and salted fish, having a value to the fishermen of $7,548,383. This total includes 39 trips, 26 at Boston and 13 at Portland, landed by 9 Canadian fishing vessels, amounting to 3,296,147 pounds of fresh fish, valued at $106,261. Of this quantity 1,191,845 pounds, valued at $53,653, were landed at Boston, and 2,104,302 pounds, valued at $52,608, at Portland. There was a decrease of 12 vessels, 21 trips, and 2,306,602 pounds in the quantity and $112,364 in the value of the products as compared with the previous year. These fish were landed in accordance with an arrangement with the Canadian Government as an emergency war measure granting reciprocal privileges to fishing vessels, by which Canadian fishing vessels were permitted to land their fares at American ports direct from the fishing grounds. Canadian fishing vessels began to utilize this privilege in April, 1918, and the arrangement is still in operation.

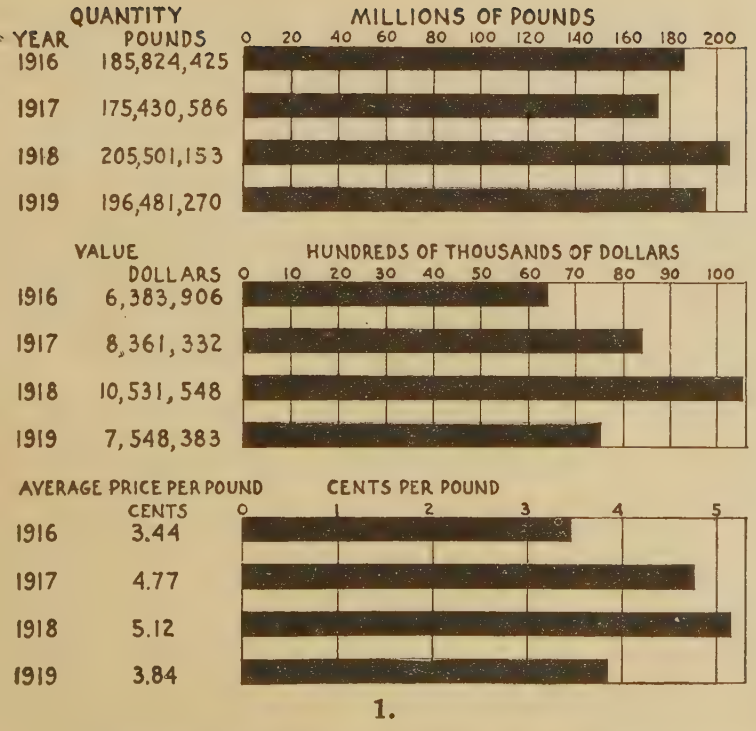
During the year 1919, 24 American fishing vessels landed 29 trips, amounting to 434,486 pounds of fish, at Canadian ports on the Atlantic coast, of which 8 trips by 8 vessels, amounting to 312,036 pounds, were landed at Halifax, Nova Scotia; and 173 American fishing vessels landed 915 trips, amounting to 12,258,522 pounds at Canadian ports on the Pacific coast, of which 889 trips by 154 vessels, amounting to 10,804,522 pounds, were landed at Prince Rupert, British Columbia.

Compared with the previous year, there was a decrease of 481 trips, or 5.49 per cent, in the total number landed by the fishing fleet at Boston, Gloucester, and Portland, and of 9,019,883 pounds, or 4.38 per cent, in the quantity, and $2,983,165, or 28.32 per cent, in the value of the fish landed. The only important species showing an increase in catch over that of the previous year were haddock and halibut. The catch of haddock increased 16,044,644 pounds, or 24.06 per cent, in quantity, but decreased $405,338, or 12.66 per cent, in value, while the catch of halibut increased 333,657 pounds, or 18.73 per cent, in quantity and $84,911, or 28.09 per cent, in value. The cod catch decreased 6,450,007 pounds, or 8.98 per cent, in quantity and $1,034,024, or 28.58 per cent, in value; hake, 941,353 pounds, or 17.82 per cent, in quantity and $92,032, or 33.70 per cent, in value; pollock, 7,808,653 pounds, or 29.39 per cent, in quantity and $581,570, or 60.44 per cent, in value; cusk, 595,062 pounds, or 22.38 per cent, in quantity and $40,862, or 39.65 per cent, in value; mackerel, 4,445,271 pounds, or 43.75 per cent, in quantity and $641,682, or

53.97 per cent, in value; herring, 4,637,077 pounds, or 30.92 per cent, in quantity and $220,894, or 47.94 per cent, in value; swordfish, 151,664 pounds, or 14.66 per cent, in quantity and $10,890, or 4.87 per cent, in value; tilefish, 265,910 pounds, or 88.80 per cent, in quantity and $18,772, or 92.71 per cent, in value; and the various other species combined, 103,187 pounds, or 2.43 per cent, in quantity and $22,012, or 12.12 per cent, in value. The catch of Newfoundland herring decreased 2,885,047 pounds, or 45.17 per cent, in quantity and $142,090, or 42.81 per cent, in value. The quantity of tilefish landed at Boston was very small, amounting to only 33,510 pounds, valued at $1,474, as compared with 299,420 pounds, valued at $20,246, the previous year.

The following graphs present the quantities and values and average price per pound of fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by fishing vessels, and also the number of trips and the average quantity and value of fishery products per trip for the years 1916 to 1919, inclusive.

The following tables present in detail, by fishing grounds and by months, the products landed at Boston and Gloucester, Mass., and Portland, Me., by American and Canadian fishing vessels, for the calendar year 1919. The weights of fresh and salted fish given in these statistics represent the fish as landed from the vessels, and the values are those received by the fishermen. The grades, or sizes, given for certain species are those recognized in the trade.



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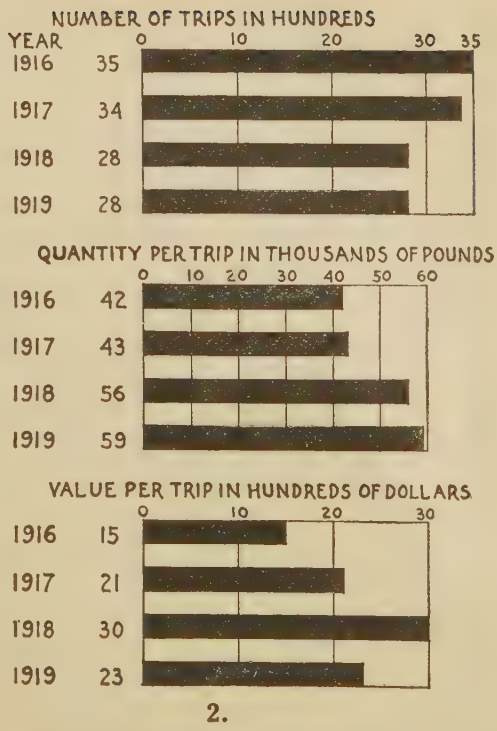

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Fig. 1.—Quantities, values, and average price per pound of fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by fishing vessels for the years 1916 to 1919 inclusive.

Fig. 2.—Number of trips, average quantity and value per trip of fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by fishing vessels from fishing grounds, exclusive of "Shore general," for the years 1916 to 1919 inclusive.

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1919, BY FISHING GROUNDS.

Fishing grounds.	Number of trips.	Cod.											
		Large (10 pounds and over).				Market (under 10 and over 2½ pounds).				Scrod (1 to 2½ pounds).			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
		Pounds	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
LANDED AT BOSTON.													
East of 66° W. longitude.													
By American vessels:													
La Have Bank	39	655,500	$40,548			368,948	$13,594			8,435	$217		
Western Bank	154	3,523,120	180,958			601,715	20,089			1,570	24		
Quereau Bank	4	62,900	2,491			11,865	356						
Grand Bank	4	34,600	4,852										
Off Newfoundland	1												
Cape Shore	61	203,850	11,953			138,803	5,707			22,949	530		
St. Anns Bank	2	56,000	4,480			95,000	4,750						
By Canadian vessels: Western Bank	2	33,305	2,025			31,200	1,218			250	4		
West of 66° W. longitude.													
By American vessels:													
Browns Bank	89	1,377,935	83,822			771,831	30,444			25,190	605		
Georges Bank	628	11,314,234	528,419			4,170,126	139,646			66,160	1,399		
Cashes Bank	3	9,559	718			4,000	144						
Fippenies Bank	1	9,500	294			9,500	228			200	2		
Middle Bank	138	99,070	6,677			46,930	3,059			11,711	329		
Jeffreys Ledge	80	34,902	3,289			28,505	1,733			5,080	156		
South Channel	395	1,035,811	64,330			1,309,269	46,952			69,574	1,302		
Nantucket Shoals	31	55,703	3,046			180,550	4,866			2,215	41		
Off Highland Light	6	22,000	990			1,750	48			1,000	10		
Off Chatham	335	1,017,710	66,348			938,236	36,966			158,095	2,911		
South	9												
Shore, general	748	427,762	24,918			123,694	5,650			6,020	153		
By Canadian vessels: Georges Bank	24	161,128	9,062			206,090	5,984			6,895	105		
Total	2,754	20,134,589	1,039,220			9,038,012	321,434			385,344	7,788		

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1919, BY FISHING GROUNDS—Continued.

Fishing grounds.	Number of trips.	Cod.											
		Large (10 pounds and over).				Market (under 10 and over 2½ pounds).				Scrod (1 to 2½ pounds).			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT GLOUCESTER.													
East of 66° W. longitude.													
		Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
By American vessels:													
La Have Bank	6	39,390	$1,260			32,890	$871			1,860	$28		
Western Bank	192	9,730,135	283,839	2,011,225	$109,532	4,875,219	128,328	969,528	$48,710	82,755	1,233	50,725	$2,198
Quereau Bank	35	2,226,441	63,240	463,281	25,138	1,271,670	30,569	312,688	11,886	8,900	134	27,948	1,156
Green Bank	2	21,820	698	10,800	702	870	23	470	28	180	3		
Grand Bank	15	610,350	18,081	180,688	10,188	84,045	2,182	77,464	2,105	970	15	5,844	261
St. Peters Bank	2			382,235	25,295			195,910	11,755			9,985	462
Burgeo Bank	2	9,630	284	370	19	2,035	48	525	24				
Off Newfoundland	14												
Cape Shore	37	209,094	6,249	1,035	51	89,057	2,358	105	5	5,305	84		
Gulf of St. Lawrence	2												
West of 66° W. longitude.													
By American vessels:													
Browns Bank	4	59,500	1,831			12,720	333			600	12		
Georges Bank	162	3,971,037	129,515	13,785	827	1,850,918	54,326	2,290	126	30,266	594		
South Channel	30	302,570	9,230	2,360	121	304,185	8,178	3,790	172	3,685	50		
Nantucket Shoals	104	16,890	508			91,296	2,257			3,000	45		
Seal Island	1	39,360	1,086										
Shore, general	2,357	1,272,295	51,486			1,900	53			280	4		
Total	2,965	18,508,512	567,307	3,065,779	171,873	8,616,805	229,526	1,562,770	74,811	137,901	2,202	94,502	4,077

LANDED AT PORTLAND.													
East of 66° W. longitude.													
By American vessels:													
La Have Bank	9	72,385	2,527			30,450	785			3,300	34		
Western Bank	11	469,720	10,855			136,030	3,196			475	12		
Quereau Bank	1												
Grand Bank	3	3,000	135			1,775	53						
St. Peters Bank	2	6,000	260										
Cape Shore	3	4,475	166			4,175	115			345	7		
St. Anns Bank	3												
By Canadian vessels:													
La Have Bank	3	44,915	1,142			18,500	489			1,335	17		
Western Bank	7	451,175	9,946			82,000	1,713			1,375	21		
Cape Shore	1	2,210	133			7,450	234			685	10		
West of 66° W. longitude.													
By American vessels:													
Browns Bank	1	2,000	90										
Georges Bank	29	143,627	3,646			44,030	998			60	1		
Cashes Bank	34	99,885	5,862			38,659	1,248			6,655	83		
Platts Bank	25	28,830	1,643			13,330	380			1,260	19		
Jeffreys Ledge	49	39,963	2,155			27,535	1,130			5,700	97		
South Channel	12	133,639	2,913			15,900	427						
Shore, general	2,355	1,354,923	89,729			455,101	20,876	208	6	77,226	1,790		
By Canadian vessels:													
Browns Bank	1												
Georges Bank	1												
Total	2,550	2,856,747	131,202			874,935	31,644	208	6	98,416	2,091		
Grand total	8,269	41,499,848	1,737,729	3,065,779	171,873	18,529,752	582,604	1,562,978	74,817	621,561	12,081	94,502	4,077

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1919, BY FISHING GROUNDS—Continued.

Fishing grounds.	Haddock.						Hake.							
	Large (over 2½ pounds).				Scrod (1 to 2½ pounds).		Large (6 pounds and over).				Small (under 6 pounds).			
	Fresh.		Salted.		Fresh.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.														
East of 66° W. longitude.														
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
By American vessels:														
La Have Bank	809,530	$35,324			1,650	$83	59,170	$3,536			62,550	$2,245		
Western Bank	2,230,200	84,479			15,500	346	15,030	913			67,055	2,937		
Quereau Bank							24,585	963						
Cape Shore	571,723	33,181			3,400	118	12,540	730			17,285	794		
St. Anns Bank	59,000	4,130												
By Canadian vessels: Western Bank	115,600	4,418			19,500	536								
West of 66° W. longitude.														
By American vessels:														
Browns Bank	1,564,245	70,530			6,640	299	11,340	454			37,840	1,461		
Georges Bank	17,481,210	611,385			1,010,778	31,657	37,780	1,567			62,380	2,469		
Cashes Bank	320	6					800	58			5,420	232		
Fippenies Bank	7,925	315												
Middle Bank	859,345	54,585			19,430	956	65,008	5,333			232,705	14,498		
Jeffreys Ledge	235,520	18,600			6,745	319	21,110	1,939			152,035	8,150		
South Channel	23,656,183	875,841			1,080,091	20,920	334,963	13,666			502,372	16,177		
Nantucket Shoals	538,140	13,421			1,215	13	4,080	163			4,995	134		
Off Chatham	6,813,869	290,716			47,225	1,471	209,695	9,879			309,468	13,860		
South											2,105	113		
Shore, general	149,112	7,926			2,965	103	12,278	505			41,718	1,650		
By Canadian vessels: Georges Bank	465,028	23,294			76,115	3,065								
Total	55,556,950	2,128,151			2,291,254	59,886	808,379	39,706			1,497,928	64,720		

LANDED AT GLOUCESTER.														
East of 66° W. longitude.														
By American vessels:														
La Have Bank	82,685	1,447					18,635	358						
Western Bank	4,548,244	88,349	133,125	$5,449	245,391	2,871	257,069	5,373	16,570	$562				
Quereau Bank	812,013	16,416	15,823	566			25,590	513	13,800	414	500	8		
Grand Bank	108,640	1,901	5,694	206	36,085	541	47,405	1,026	8,000	261				
St. Peters Bank			70	3										
Cape Shore	131,655	2,696					17,520	347						
West of 66° W. longitude.														
By American vessels:														
Browns Bank	115,105	1,850												
Georges Bank	6,373,318	129,025			128,535	1,544	136,410	3,035	700	32				
South Channel	1,658,785	35,606	450	16	22,630	226	5,225	131						
Nantucket Shoals	688,845	11,423			105,780	1,536	3,165	55						
Seal Island							10,550	185						
Shore, general	2,631,087	107,436					224,528	13,107						
Total	17,150,377	396,149	155,162	6,240	538,421	6,718	746,097	24,130	39,070	1,269	500	8		
LANDED AT PORTLAND.														
East of 66° W. longitude.														
By American vessels:														
La Have Bank	144,320	4,087			5,775	63	1,265	37			4,130	159		
Western Bank	1,972,624	44,485			15,875	159					7,930	172		
Grand Bank							1,675	50						
St. Peters Bank							1,165	34						
Cape Shore	540	16					530	21			2,800	71		
By Canadian vessels:														
La Have Bank	105,830	2,697			280	4					2,320	46		
Western Bank	1,285,585	28,390			1,265	19	860	43			1,250	38		
Cape Shore	27,475	893			380	6	210	4			975	20		
West of 66° W. longitude.														
By American vessels:														
Georges Bank	1,052,442	22,238					365	33			7,755	348		
Cashes Bank	8,672	578			1,060	22	16,087	1,015			60,530	2,425		
Platts Bank	2,849	178					12,413	743			113,746	3,851		
Jeffreys Ledge	321,325	11,866			13,613	321	10,675	722			113,230	4,459		
South Channel	1,281,829	29,315					3,120	125			3,800	95		
Shore, general	751,272	50,440			31,009	1,017	140,522	9,107			739,699	27,587	450	$15
Total	6,954,764	195,183			69,257	1,611	188,887	11,934			1,058,165	39,271	450	15
Grand total	79,662,091	2,719,483	155,162	6,240	2,898,932	68,215	1,743,363	75,770	39,070	1,269	2,556,593	103,999	450	15

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1919, BY FISHING GROUNDS—Continued.

Fishing grounds.	Pollock.				Cusk.				Halibut.			
	Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.												
East of 66° W. longitude.												
By American vessels:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
La Have Bank	29,770	$1,359			139,927	$3,944			63,676	$14,838		
Western Bank	305,348	7,916			65,098	1,981			321,852	56,825		
Quereau Bank	2,190	66			25,940	818			33,181	7,973		
Grand Bank									105,000	21,100		
Off Newfoundland									40,000	6,000		
Cape Shore	6,760	310			19,425	544			6,087	1,474		
By Canadian vessels: Western Bank	4,550	214							52	13		
West of 66° W. longitude.												
By American vessels:												
Browns Bank	88,165	3,633			258,521	7,680			139,021	28,694		
Georges Bank	628,986	22,488			47,660	1,494			497,923	90,833		
Cashes Bank	1,120	40			9,900	241			1,693	277		
Fippenies Bank	230	3			4,600	79			350	53		
Middle Bank	25,882	1,713			54,535	2,231			2,353	746		
Jeffreys Ledge	286,145	9,978			55,800	2,046			1,833	470		
South Channel	312,001	9,777			22,605	686			65,355	12,426		
Nantucket Shoals	112,265	2,810			400	10			1,462	279		
Off Highland Light	900	36										
Off Chatham	358,860	16,755			19,663	728			20,308	4,661		
Shore, general	788,126	26,202			11,355	479			23,159	2,270	2,000	$320
By Canadian vessels: Georges Bank	49,483	1,736			1,225	25			6,079	1,180		
Total	3,000,781	105,036			736,654	22,986			329,384	250,112	2,000	320
LANDED AT GLOUCESTER.												
East of 66° W. longitude.												
By American vessels:												
La Have Bank	3,085	49			87,500	1,844						
Western Bank	496,122	8,817	46,439	$1,141	252,995	5,566	33,110	$1,475	166,629	22,266	6,983	959
Quereau Bank	58,423	952	5,993	161	11,630	286	145	6	50,596	7,764	3,164	41
Green Bank							685	31	79,373	13,672		
Grand Bank	3,124	59	1,854	61	10,952	251	4,022	146	49,234	8,990	248	39
St. Peters Bank			815	37							2,205	353
Cape Shore	5,055	68			68,630	1,351						

West of 66° W. longitude.												
By American vessels:												
Browns Bank	610	11			42,195	886						
Georges Bank	143,244	2,905			124,065	2,974			11,578	2,115		
South Channel	21,525	477			420	11						
Nantucket Shoals	3,128,700	42,904										
Seal Island	310	5			2,300	52						
Shore, general	10,738,588	191,958			8,270	152			50	13		
Total	14,598,786	248,205	55,101	1,400	608,957	13,373	37,962	1,658	357,460	54,820	12,600	1,770
LANDED AT PORTLAND.												
East of 66° W. longitude.												
By American vessels:												
La Have Bank	2,755	62			21,540	659			67,498	13,219		
Western Bank	81,095	1,147			4,240	122			50,692	8,430		
Quereau Bank									19,970	5,041		
Grand Bank									67,864	14,492		
St. Peters Bank									59,017	11,952		
Cape Shore	80	2			2,590	56			741	96		
By Canadian vessels:												
La Have Bank	535	12			17,165	377			3,940	647		
Western Bank	9,780	104			745	15			1,464	232		
Cape Shore	110	2			7,240	142			3,629	647		
West of 66° W. longitude.												
By American vessels:												
Browns Bank									20,191	4,145		
Georges Bank	1,805	59			10,430	283			83,635	14,222		
Cashes Bank	6,711	172			110,883	3,032			17,012	3,356		
Platts Bank	840	21			71,688	1,982			1,503	366		
Jeffreys Ledge	18,158	671			62,158	2,258			1,212	207		
South Channel	3,495	42							2,266	515		
Shore, general	971,420	23,565	515	15	370,946	15,225			12,583	2,602		
Total	1,096,784	25,859	515	15	679,625	24,152			413,217	80,169		
Grand total	18,696,351	379,100	55,616	1,415	2,025,236	60,511	37,962	1,658	2,100,061	385,101	14,600	2,090

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1919, BY FISHING GROUNDS—Continued.

Fishing grounds.	Mackerel.											
	Large (over 2¼ pounds).				Medium (1½ to 2¼ pounds).				Small (under 1½ pounds).			
	Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
LANDED AT BOSTON.												
East of 66° W. longitude.												
By American vessels: Cape Shore	1,931,977	$118,300	166,000	$13,556	60,285	$3,617						
West of 66° W. longitude.												
By American vessels:												
Georges Bank					14,450	1,301			500	$35		
Middle Bank	8,350	1,678							395,565	34,626		
South Channel	7,125	1,069										
Nantucket Shoals	24,635	3,597										
Off Highland Light	30,851	6,496										
Off Chatham	59,560	10,532			16,260	1,616			181	18		
South	60,380	4,079			19,200	808			120,832	11,949		
Shore, general	498,203	91,991			68,930	6,557			150	2		
									546,550	61,389	3,200	$442
Total	2,621,081	237,742	166,000	13,556	179,125	13,899			1,063,778	108,019	3,200	442
LANDED AT GLOUCESTER.												
East of 66° W. longitude.												
By American vessels:												
Cape Shore	65,381	5,639	1,094,763	89,784								
Gulf of St. Lawrence			34,000	6,246								
West of 66° W. longitude.												
By American vessels:												
Nantucket Shoals	1,232	98	46,996	5,037					3,218	129	25,000	1,698
Shore, general	154,516	28,474	8,200	1,156	1,035	98	6,400	$950	18,680	709	9,288	840
Total	221,129	34,211	1,183,959	102,223	1,035	98	6,400	950	21,898	838	34,288	2,538

LANDED AT PORTLAND												
East of 66° W. longitude.												
By American vessels: Cape Shore	19,785	1,032	3,000	240	.....	.....	.....	.....	.....	.....	.....	.....
West of 66° W. longitude.												
By American vessels: Shore, general	168,265	28,849	1,559	187	12,800	1,461	.....	.....	5,874	955	20	2
Total	188,050	29,881	4,559	427	12,800	1,461	.....	.....	5,874	955	20	2
Grand total	3,030,260	301,834	1,354,518	116,206	192,960	15,458	6,400	950	1,091,550	109,812	37,508	2,982

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1919, BY FISHING GROUNDS—Continued.

Fishing grounds.	Miscellaneous.				Total.				Grand total.	
	Fresh.		Salted.		Fresh.		Salted.			
LANDED AT BOSTON.										
East of 66° W. longitude.										
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
By American vessels:										
La Have Bank	24,960	$1,223			2,224,116	$116,911			2,224,116	$116,911
Western Bank	43,651	1,600			7,190,139	358,068			7,190,139	358,068
Quereau Bank	1,625	125			162,286	12,792			162,286	12,792
Grand Bank	315	110			139,915	26,062			139,915	26,062
Off Newfoundland					40,000	6,000			40,000	6,000
Cape Shore	80,748	17,519			3,075,832	194,777	166,060	$13,556	3,241,832	208,333
St. Anns Bank	2,400	108			212,400	13,468			212,400	13,468
By Canadian vessels: Western bank	350	29			204,807	8,457			204,807	8,457
West of 66° W. longitude.										
By American vessels:										
Browns Bank	69,917	2,769			4,350,645	230,391			4,350,645	230,391
Georges Bank	900,978	148,415	11,400	$285	36,233,165	1,581,108	11,400	285	36,244,565	1,581,393
Cashes Bank	800	20			33,612	1,736			33,612	1,734
Fippenies Bank					32,305	974			32,305	974
Middle Bank	123,921	5,013			1,944,805	131,444			1,944,805	131,449
Jeffreys Ledge	67,922	3,849			895,597	50,529			895,597	50,526
South Channel	558,966	25,424			28,954,315	1,088,570			28,954,315	1,088,570
Nantucket Shoals	67,391	1,467			993,051	29,847			993,051	29,847
Off Highland Light	979	117			57,661	7,715			57,661	7,715
Off Chatham	399,477	14,581			10,489,258	482,973			10,489,258	482,973
South	34,655	1,555			116,490	6,557			116,490	6,557
Shore, general	2,171,461	75,379			4,871,333	305,172	5,200	762	4,876,533	305,934
By Canadian vessels: Georges Bank	14,995	745			987,038	45,196			987,038	45,196
Total	4,565,511	300,048	11,400	285	103,208,770	4,698,747	182,600	14,603	103,391,370	4,713,350
LANDED AT GLOUCESTER.										
East of 66° W. longitude.										
By American vessels:										
La Have Bank					266,045	5,857			266,045	5,857
Western Bank					20,654,559	546,642	3,267,705	170,026	23,922,264	716,668
Quereau Bank					4,465,763	119,882	842,842	39,746	5,308,605	159,628
Green Bank					102,243	14,396	11,955	761	114,198	15,157
Grand Bank					950,805	33,046	283,814	13,267	1,234,619	46,313
St. Peters Bank							591,220	37,905	591,220	37,905
Burgeo Bank					11,665	332	895	43	12,560	375

Off Newfoundland			[1] 3,501,777	189,783			3,501,777	189,783	3,501,777	189,783
Cape Shore					591,697	18,792	1,095,903	89,840	1,687,600	108,632
Gulf of St. Lawrence							34,000	6,246	34,000	6,246
West of 66° W. longitude.										
By American vessels:										
Browns Bank					230,730	4,923			230,730	4,923
Georges Bank	36,292	6,918			12,805,663	332,951	16,775	985	12,822,438	333,936
South Channel					2,319,025	53,909	6,600	309	2,325,625	54,218
Nantucket Shoals					4,042,126	58,955	71,996	6,735	4,114,122	65,690
Seal Island					52,520	1,328			52,520	1,328
Shore, general	77,517	2,497			15,128,746	395,987	23,888	2,946	15,152,634	398,933
Total	113,809	9,415	3,501,777	189,783	61,621,587	1,587,000	9,749,370	558,592	71,370,957	2,145,592
LANDED AT PORTLAND.										
East of 66° W. longitude.										
By American vessels:										
La Have Bank	17,653	2,268			371,071	23,900			371,071	23,900
Western Bank	595	11			2,739,277	68,589			2,739,277	68,589
Quereau Bank					19,970	5,041			19,970	5,041
Grand Bank					74,314	14,730			74,314	14,730
St. Peters Bank					66,182	12,246			66,182	12,246
Cape Shore					36,061	1,582	3,000	240	39,061	1,822
St. Anns Bank	15,479	3,734			15,479	3,734			15,479	3,734
By Canadian vessels:										
La Have Bank					194,820	5,431			194,820	5,431
Western Bank					1,835,499	40,521			1,835,499	40,521
Cape Shore					50,364	2,092			50,364	2,092
West of 66° W. longitude.										
By American vessels:										
Browns Bank					22,191	4,235			22,191	4,235
Georges Bank	191,961	42,967			1,536,110	84,795			1,536,110	84,795
Cashes Bank	1,586	23			367,740	17,816			367,740	17,816
Platts Bank	1,750	21			248,209	9,204			248,209	9,204
Jeffreys Ledge	13,878	338			627,447	24,224			627,447	24,224
South Channel	5,695	100			1,449,744	33,532			1,449,744	33,532
Shore, general	6,943,454	59,537			12,035,094	332,740	2,752	225	12,037,846	332,965
By Canadian vessels:										
Browns Bank	9,751	1,288			9,751	1,288			9,751	1,288
Georges Bank	13,868	3,276			13,868	3,276			13,868	3,276
Total	7,215,670	113,563			21,713,191	688,976	5,752	465	21,718,943	689,441
Grand total	11,894,990	423,026	3,513,177	190,068	186,543,548	6,974,723	9,937,722	573,660	196,481,270	7,548,383

[1] Herring. Other items under "Miscellaneous" include bluebacks, 27,450 pounds, value $304; bonito, 780 pounds, value $57; butterfish, 11,312 pounds, value $1,132; catfish or wolffish, 98,378 pounds, value $2,893; eels, 310 pounds, value $12; flounders, 2,451,856 pounds, value $103,050; goosefish, 200 pounds, value $3; herring, 6,858,108 pounds, value $50,005 horse mackerel, 560 pounds, value $50; redfish, 54,685 pounds, value $1,516; salmon, 7 pounds, value $2; shad, 222,612 pounds, value $8,643; sharks, 26,786 pounds, value $837; skates, 11,930 pounds, value $252; smelt, 27,012 pounds, value $2,503; sturgeon, 3,058 pounds, value $582; swordfish, 882,727 pounds, value $212,368; tilefish, 33,510 pounds, value $1,474; whiting, 43,110 pounds, value $231; porpoise, 70 pounds, value $2; lobster, 172 pounds, value $63; shrimp, 300 pounds, value $39; livers, 895,595 pounds, value $25,315; sounds, 127 pounds, value $3; spawn, fresh, 242,135 pounds, value $11,635; spawn, salted, 11,400 pounds, value $285; and tongues, 2,200 pounds, value $55.

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS DURING 1919,[1] BY MONTHS.

Fishing grounds.	Number of trips.	Cod.											
		Large (10 pounds and over).				Market (under 10 and over 2½ pounds).				Scrod (1 to 2½ pounds).			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.		*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
January	244	1,305,953	$95,998			673,614	$36,726			75,056	$1,946		
February	207	2,602,759	115,003			494,167	19,178			27,535	601		
March	242	4,388,311	169,499			696,206	25,471			19,145	398		
April	232	2,180,083	116,679			557,993	21,400			50,543	860		
May	243	1,622,654	68,263			989,033	24,705			41,900	579		
June	253	1,502,250	77,476			1,397,223	39,249			46,885	509		
July	119	526,835	23,532			301,120	7,971			5,605	60		
August	120	140,259	13,963			224,155	13,481			13,755	477		
September	323	1,620,836	94,578			1,034,702	36,876			23,645	568		
October	322	1,889,581	104,120			1,074,160	34,720			33,305	696		
November	246	1,528,525	96,757			896,674	32,976			22,162	504		
December	203	826,543	63,352			698,965	28,681			25,808	590		
Total	2,754	20,134,589	1,039,220			9,038,012	321,434			385,344	7,788		
LANDED AT GLOUCESTER.													
January	156	69,311	3,757	90	$7	62,255	2,441	25	$2	3,340	67		
February	100	453,870	15,476			52,385	1,571			480	8		
March	254	1,906,571	62,593	7,670	349	257,175	6,970	1,200	42	11,250	301		
April	430	1,368,098	44,229	16,530	909	480,525	12,071	2,040	92	11,601	217		
May	317	4,634,207	132,907	25,290	1,084	1,925,971	47,538	6,245	243	25,255	390		
June	148	3,420,819	94,268	958,765	51,894	2,102,140	53,448	420,575	20,772	57,665	850	9,085	$358
July	84	2,551,921	70,803	400,073	21,666	1,040,628	25,159	257,653	11,765	5,710	81	21,659	873
August	8	69,930	2,100	751,447	33,574	51,260	1,398	441,586	15,459	260	3	33,101	1,444
September	102	1,317,933	47,405	429,485	28,304	1,265,955	34,808	247,160	14,764	4,620	64	25,985	1,182
October	600	2,009,975	67,756	444,759	32,028	1,088,515	36,242	183,986	11,534	7,770	93	4,672	220
November	530	605,527	21,603	11,340	737	239,981	6,626	400	24	3,970	54		
December	236	100,350	4,410	20,330	1,321	50,015	1,254	1,900	114	5,880	74		
Total	2,965	18,508,512	567,307	3,065,779	171,873	8,616,805	229,526	1,562,770	74,811	137,801	2,202	94,502	4,077

LANDED AT PORTLAND.

January	182	103,379	6,429			69,171	4,829			17,653	593		
February	183	100,853	4,703			61,597	2,741			9,944	224		
March	251	233,323	8,376			71,100	3,170			8,992	175		
April	295	223,820	10,084			333,964	8,695			13,616	256		
May	286	577,498	14,199			47,459	1,050			5,057	56		
June	275	801,219	23,851			68,224	1,685			4,648	54		
July	273	368,959	28,600			26,127	1,039			3,838	49		
August	262	206,194	19,062			47,469	2,363			2,792	55		
September	145	80,054	5,134			17,264	712	208	6	2,951	50		
October	202	68,028	3,849			42,206	1,382			4,037	67		
November	97	38,156	2,246			30,738	1,107			5,336	87		
December	99	54,964	4,669			56,316	2,871			19,552	425		
Total	2,550	2,856,747	131,202			874,935	31,644	208	6	98,416	2,091		
Grand total	8,269	41,499,848	1,737,729	3,065,779	171,873	18,529,752	582,604	1,562,978	74,817	621,561	12,081	94,502	4,077
Grounds E. of 66° W. long	617	18,470,015	646,122	3,049,634	170,925	7,883,697	216,678	1,556,690	74,513	140,689	2,373	94,502	4,077
Grounds W. of 66° W. long	7,652	23,029,833	1,091,607	16,145	948	10,646,055	365,926	6,288	304	480,872	9,708		
Landed at Boston in 1918	2,830	21,849,086	1,453,212			12,674,977	635,575	35,000	1,400	1,397,026	34,055		
Landed at Gloucester in 1918	3,414	17,059,266	701,261	1,945,048	138,727	10,806,656	341,717	1,386,633	88,961	376,608	7,596	115,235	7,895
Landed at Portland in 1918	2,506	2,745,657	143,071	2,105	163	1,242,403	57,580	1,712	146	185,900	5,786	1,115	60

[1] These statistics for 1919 include 39 trips landed by Canadian fishing vessels, 26 at Boston and 13 at Portland, amounting to 3,296,147 pounds of fish, value $106,261.

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS DURING 1919, BY MONTHS—Continued.

Fishing grounds.	Haddock.								Hake.							
	Large (over 2½ pounds).				Scrod (1 to 2½ pounds).				Large (6 pounds and over).				Small (under 6 pounds).			
	Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
January	4,362,153	$273,283	.....	.....	353,035	$16,722	.....	.....	35,628	$4,411	.....	.....	243,170	$16,386	.....	.....
February	5,127,677	207,402	.....	.....	169,513	5,497	.....	.....	8,580	922	.....	.....	65,010	4,480	.....	.....
March	8,032,356	244,703	.....	.....	353,810	8,374	.....	.....	10,835	645	.....	.....	67,265	2,779	.....	.....
April	6,019,243	161,535	.....	.....	589,560	13,130	.....	.....	8,120	436	.....	.....	74,580	2,830	.....	.....
May	3,594,553	108,012	.....	.....	269,986	3,417	.....	.....	18,780	837	.....	.....	82,935	2,403	.....	.....
June	3,370,891	95,818	.....	.....	185,485	2,646	.....	.....	19,965	569	.....	.....	95,335	2,797	.....	.....
July	919,570	23,905	.....	.....	22,525	322	.....	.....	54,255	1,789	.....	.....	20,820	561	.....	.....
August	1,830,845	85,735	.....	.....	26,160	1,114	.....	.....	48,375	2,677	.....	.....	70,850	3,496	.....	.....
September	5,368,750	177,110	.....	.....	60,710	1,718	.....	.....	103,633	4,228	.....	.....	117,483	4,434	.....	.....
October	7,385,364	229,089	.....	.....	170,095	4,294	.....	.....	290,185	10,318	.....	.....	256,637	7,830	.....	.....
November	4,581,570	249,716	.....	.....	71,175	1,948	.....	.....	141,903	8,710	.....	.....	257,415	9,998	.....	.....
December	4,963,978	271,843	.....	.....	19,200	704	.....	.....	65,120	4,164	.....	.....	146,428	6,726	.....	.....
Total	55,556,950	2,128,151	.....	.....	2,291,254	59,886	.....	.....	808,379	39,706	.....	.....	1,497,928	64,720	.....	.....
LANDED AT GLOUCESTER.																
January	104,423	4,066	.....	.....	.....	.....	.....	.....	700	21	335	$15	.....	.....	.....	.....
February	450,022	21,243	.....	.....	.....	.....	.....	.....	215	4	.....	.....	.....	.....	.....	.....
March	2,500,942	74,133	.....	.....	48,335	611	.....	.....	1,384	28	1,200	36	.....	.....	.....	.....
April	2,635,398	62,106	.....	.....	18,145	181	.....	.....	4,290	86	2,620	79	500	8	.....	.....
May	1,710,289	31,073	.....	.....	184,560	2,642	.....	.....	73,305	1,375	.....	.....	.....	.....	.....	.....
June	1,960,125	34,624	11,070	$387	255,356	2,964	.....	.....	32,665	567	2,140	59	.....	.....	.....	.....
July	827,785	14,470	17,657	617	32,025	320	.....	.....	87,185	1,526	155	4	.....	.....	.....	.....
August	64,480	1,451	25,691	954	.....	.....	.....	.....	1,265	32	3,800	133	.....	.....	.....	.....
September	3,479,268	78,069	64,015	2,876	.....	.....	.....	.....	122,785	3,021	980	45	.....	.....	.....	.....
October	3,064,825	66,062	36,729	1,406	.....	.....	.....	.....	185,105	4,116	25,860	839	.....	.....	.....	.....
November	286,535	5,731	.....	.....	.....	.....	.....	.....	187,863	10,597	980	29	.....	.....	.....	.....
December	66,285	3,121	.....	.....	.....	.....	.....	.....	49,335	2,757	1,000	30	.....	.....	.....	.....
Total	17,150,377	396,149	155,162	6,240	538,421	6,718	.....	.....	746,097	24,130	39,070	1,269	500	8	.....	.....

LANDED AT PORTLAND.																
January	170,011	16,614	.....	.....	7,850	390	.....	.....	11,510	1,278	.....	.....	67,661	3,981	.....	.....
February	261,223	12,712	.....	.....	9,496	272	.....	.....	18,626	1,834	.....	.....	147,580	7,517	.....	.....
March	1,105,627	29,889	.....	.....	18,220	335	.....	.....	16,518	1,268	.....	.....	130,377	4,918	.....	.....
April	1,430,030	33,321	.....	.....	3,516	77	.....	.....	21,283	1,629	.....	.....	160,186	6,087	.....	.....
May	1,961,603	45,483	.....	.....	1,777	31	.....	.....	18,123	771	.....	.....	94,984	2,044	.....	.....
June	1,308,603	30,236	.....	.....	1,803	40	.....	.....	11,833	323	.....	.....	55,827	974	.....	.....
July	426,512	10,635	.....	.....	17,220	211	.....	.....	22,343	1,171	.....	.....	56,832	1,939	.....	.....
August	17,548	1,158	.....	.....	1,261	40	.....	.....	11,687	944	.....	.....	84,727	3,228	.....	.....
September	32,008	1,729	.....	.....	1,885	28	.....	.....	11,152	627	.....	.....	51,359	1,712	.....	.....
October	103,180	3,389	.....	.....	1,695	26	.....	.....	22,990	1,052	.....	.....	100,902	2,788	450	$15
November	49,562	2,768	.....	.....	1,170	36	.....	.....	7,852	516	.....	.....	69,033	2,653	.....	.....
December	88,857	6,949	.....	.....	3,364	125	.....	.....	8,670	521	.....	.....	38,697	1,430	.....	.....
Total	6,954,764	195,183	.....	.....	69,257	1,611	.....	.....	188,887	11,934	.....	.....	1,058,165	39,271	450	15
Grand total	79,662,091	2,719,483	155,162	6,240	2,898,932	68,215	.....	.....	1,743,363	75,770	39,070	1,269	2,556,593	103,999	450	15
Grounds E. of 66° W. long	13,005,665	352,909	154,712	6,224	345,101	4,746	.....	.....	483,249	13,948	38,370	1,237	166,795	6,490	.....	.....
Grounds W. of 66° W. long	66,656,426	2,366,574	450	16	2,553,831	63,469	.....	.....	1,260,114	61,822	700	32	2,389,798	97,509	450	15
Landed at Boston in 1918	46,140,828	2,449,932	.....	.....	6,044,978	225,335	.....	.....	986,743	67,897	.....	.....	2,015,567	103,706	.....	.....
Landed at Gloucester in 1918	7,924,068	249,512	52,853	2,645	461,590	14,808	15,639	$856	533,499	17,319	33,767	1,385	150	3	460	25
Landed at Portland in 1918	5,959,531	253,142	.....	.....	72,054	3,046	.....	.....	314,036	22,463	740	33	1,395,867	60,254	.....	.....

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS DURING 1919, BY MONTHS—Continued.

Fishing grounds.	Pollock.				Cusk.				Halibut.			
	Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
January	98,480	$7,441			149,978	$6,200			28,093	$9,903		
February	69,202	4,450			23,848	1,098			74,619	17,753		
March	32,226	1,830			23,100	939			59,672	13,973		
April	90,729	3,555			134,660	3,067			260,115	42,662		
May	348,181	8,875			61,445	1,424			246,976	35,409		
June	263,587	9,556			14,780	351			154,391	25,500		
July	30,213	917			28,890	899			114,594	17,422		
August	75,642	5,897			3,550	147			7,222	1,337	2,000	$320
September	496,620	18,886			39,250	1,458			108,649	20,385		
October	571,492	14,619			50,907	1,645			216,570	49,946		
November	794,784	25,028			62,960	1,794			31,556	7,861		
December	129,625	3,982			143,286	3,964			26,927	7,961		
Total	3,000,781	105,036			736,654	22,986			1,329,384	250.112	2,000	320
LANDED AT GLOUCESTER.												
January	475,445	29,886			3,187	98			35,889	6,747		
February	29,390	1,842			4,305	109			56,789	8,358	85	3
March	71,273	3,773			920	19	400	$12	12,780	2,055		
April	155,815	5,024	1,135	$26	92,100	1,785	275	10	72,531	11,743		
May	2,992,329	41,346	45	1	144,865	2,926			56,447	6,599	635	29
June	96,605	1,284	18,880	472	10,265	212	530	16	9,808	1,093	2,010	311
July	198,710	2,389	3,560	103	119,375	2,568	640	22	58,611	8,087	1,722	269
August	3,356	113	16,956	234			1,517	56			2,911	448
September	179,520	4,324	7,985	360	94,430	2,330	31,745	1,429	8,508	1,640	2,285	366
October	5,015,795	76,620	6,540	204	89,340	2,226	2,055	77	320	37	2,952	344
November	4,157,215	61,314			39,465	874	65	3	24,441	4,490		
December	1,223,333	20,290			10,705	226	735	33	21,336	3,971		
Total	14,598,786	248,205	55,101	1,400	608,957	13,373	37,962	1,658	357,460	54,820	12,600	1,770

LANDED AT PORTLAND.												
January	24,530	1,607			44,825	2,862			420	91		
February	23,501	1,386			101,480	3,744			4,046	714		
March	30,573	1,387			72,300	3,254			2,085	390		
April	355,906	7,449			157,977	4,453			8,304	1,794		
May	121,207	1,539			50,120	1,057			7,244	1,207		
June	114,640	1,397			32,711	1,015			132,339	21,398		
July	26,259	767			38,843	1,077			47,495	8,101		
August	39,490	2,083			23,417	1,055			3,329	881		
September	60,594	1,994	515	15	47,464	1,577			65,341	13,632		
October	274,322	5,410			52,226	1,534			106,256	22,520		
November	18,668	589			29,500	1,168			891	154		
December	7,094	251			28,762	1,356			35,467	9,287		
Total	1,096,784	25,859	515	15	679,625	24,152			413,217	80,169		
Grand total	18,696,351	379,100	55,616	1,415	2,025,236	60,511	37,962	1,658	2,100,061	385,101	11,600	2,090
Grounds E. of 66° W. long	1,008,782	21,139	55,101	1,400	735,617	17,957	37,962	1,658	1,190,495	215,671	12,600	1,770
Grounds W. of 66° W. long	17,687,569	357,961	515	15	1,289,619	42,554			909,566	169,430	2,000	320
Landed at Boston in 1918	4,291,471	250,269			1,088,403	44,682			686,955	134,654		
Landed at Gloucester in 1918	20,747,802	661,812	53,258	2,092	677,598	20,305	13,940	593	771,664	110,508	10,931	1,240
Landed at Portland in 1918	1,468,089	47,912			878,319	37,451			311,454	55,878		

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS DURING 1919, BY MONTHS—Continued.

Fishing grounds.	Mackerel.											
	Large (over 2¼ pounds).				Medium (1½ to 2¼ pounds).				Small (under 1½ pounds).			
	Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
January												
February												
March												
April												
May												
June	2,087,895	$132,131	166,000	$13,556	26,300	$1,841						
July	14,473	2,735			95,870	5,668			24,650	$1,703		
August	99,990	20,608			6,000	240			135,480	6,489		
September	43,397	7,043			50,955	6,150			11,351	1,279		
October	203,839	38,996							863,614	91,894	3,200	$442
November	171,487	36,229							28,683	6,654		
December												
Total	2,621,081	237,742	166,000	13,556	179,125	13,899			1,063,778	108,019	3,200	442
LANDED AT GLOUCESTER.												
January												
February												
March												
April												
May												
June	65,381	5,639	1,094,763	89,784	835	75						
July	1,232	98	46,996	5,037					21,898	838	5,700	338
August											25,000	1,698
September	1,500	210	7,400	1,036			1,000	$140				
October	68,976	12,727	800	120	200	23	5,400	810			388	54
November	84,040	15,537	34,000	6,246							3,200	448
December												
Total	221,129	34,211	1,183,959	102,223	1,035	98	6,400	950	21,898	838	34,288	2,538

LANDED AT PORTLAND.												
January												
February												
March												
April												
May	4	1										
June	23,356	1,399	4,369	404	467	37					20	2
July	2,274	348			7,628	816			1,351	187		
August	80,964	14,338			3,348	341			4,293	730		
September	67,417	10,610			457	87			90	16		
October	10,155	2,487	190	23	900	180			140	22		
November	3,880	698										
December												
Total	188,050	29,881	4,559	427	12,800	1,461			5,874	955	20	2
Grand total	3,030,260	301,834	1,354,518	116,206	192,960	15,458	6,400	950	1,091,550	109,812	37,508	2,982
Grounds E. of 66° W. long	2,017,143	124,971	1,297,763	109,826	60,285	3,617						
Grounds W. of 66° W. long	1,013,117	176,863	56,755	6,380	132,675	11,841	6,400	950	1,091,550	109,812	37,508	2,982
Landed at Boston in 1918	4,995,826	549,741	174,400	23,988	1,261,360	171,509	30,220	4,479	308,427	31,287	9,400	1,504
Landed at Gloucester in 1918	98,972	13,491	1,374,558	155,299	243,701	12,570	912,175	141,119	200	27	25,900	3,908
Landed at Portland in 1918	443,743	49,311	49,400	4,988	106,241	14,345			123,944	11,358		

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS DURING 1919, BY MONTHS—Continued.

Fishing grounds.	Miscellaneous.[1]				Total.				Grand total.	
	Fresh.		Salted.		Fresh.		Salted.			
LANDED AT BOSTON.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
January	486,283	$23,356			7,811,443	$492,372			7,811,443	$492,372
February	416,197	15,458			9,079,107	391,842			9,079,107	391,842
March	440,095	16,010	11,400	$285	14,123,021	484,621	11,400	$285	14,134,421	484,906
April	481,874	14,641			10,447,500	380,795			10,447,500	380,795
May	443,521	9,755			7,746,264	265,520			7,746,264	265,520
June	214,195	11,387			9,473,402	405,360	166,000	13,556	9,639,402	418,916
July	382,986	84,407			2,563,366	171,249			2,563,366	171,249
August	205,624	24,179			2,808,733	180,540	2,000	320	2,810,733	180,860
September	450,844	50,380			10,332,133	509,558	3,200	442	10,335,333	510,000
October	398,952	15,929			12,569,770	518,856			12,569,770	518,856
November	268,046	11,381			8,831,257	482,902			8,831,257	482,902
December	376,894	23,165			7,422,774	415,132			7,422,774	415,132
Total	4,565,511	300,048	11,400	285	103,208,770	4,698,747	182,600	14,603	103,391,370	4,713,350
LANDED AT GLOUCESTER.										
January	23,475	851	3,024,157	167,207	778,025	47,934	3,024,607	167,231	3,802,632	215,165
February	17,865	802			1,065,321	49,413	85	3	1,065,406	49,416
March					4,810,630	150,483	10,470	439	4,821,100	150,922
April	6,612	29			4,845,615	137,479	22,600	1,116	4,868,215	138,595
May	17,800	178			11,765,028	266,974	32,215	1,357	11,797,243	268,331
June					8,011,664	195,024	2,523,518	164,391	10,535,182	359,415
July	36,292	6,918			4,981,372	133,257	775,115	42,054	5,756,487	175,311
August					190,551	5,097	1,277,009	52,302	1,467,560	57,399
September					6,474,519	171,871	818,428	50,556	7,292,947	222,427
October					11,530,821	265,902	716,953	48,030	12,247,774	313,932
November					5,629,037	126,826	46,785	7,039	5,675,822	133,865
December	11,765	637	477,620	22,576	1,539,004	36,740	501,585	24,074	2,040,589	60,814
Total	113,809	9,415	3,501,777	189,783	61,621,587	1,587,000	9,749,370	558,592	71,370,957	2,145,592

LANDED AT PORTLAND.										
January	23,570	784			540,580	39,458			540,580	39,458
February	24,926	788			766,272	36,635			766,272	36,635
March	51,752	1,514			1,740,867	54,676			1,740,867	54,676
April	125,419	1,432			2,837,021	75,277			2,837,021	75,277
May	1,140,030	10,233			4,025,406	77,671			4,025,406	77,671
June	3,620,314	18,086			6,175,984	100,495	4,389	406	6,180,373	100,901
July	1,091,066	40,895			2,137,047	95,835			2,137,047	95,835
August	239,466	20,486			769,285	67,064			769,285	67,064
September	367,335	12,979			805,371	50,887	723	21	806,094	50,908
October	469,161	4,956			1,256,198	49,662	640	38	1,256,838	49,700
November	57,208	1,084			312,084	13,106			312,084	13,106
December	5,333	326			347,076	28,210			347,076	28,210
Total	7,215,670	113,563			21,713,191	688,976	5,752	465	21,718,943	689,441
Grand total	11,894,990	423,026	3,513,177	190,068	186,543,548	6,974,723	9,937,722	573,660	196,481,270	7,548,383
Grounds E. of 66° W. long	187,776	26,727	3,501,777	189,783	45,695,309	1,653,348	9,799,111	561,413	55,494,420	2,214,761
Grounds W. of 66° W. long	11,707,214	396,299	11,400	285	140,848,239	5,321,375	138,611	12,247	140,986,850	5,333,622
Landed at Boston in 1918	5,485,374	404,529			109,227,021	6,556,383	249,020	31,371	109,476,041	6,587,754
Landed at Gloucester in 1918	2,300,704	45,402	6,232,624	321,529	62,002,478	2,196,331	12,173,021	866,274	74,175,499	3,062,605
Landed at Portland in 1918	6,547,303	114,202			21,794,541	875,799	55,072	5,390	21,849,613	881,189

[1] Includes herring from Newfoundland, 3,501,777 pounds salted, value $189,783.

The fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by fishing vessels each year are taken principally from fishing grounds lying off the coast of the United States. In the calendar year 1919, 71.72 per cent of the quantity and 70.64 per cent of the value of the catch landed at these ports by American and Canadian fishing vessels were taken from these grounds; 2.93 per cent of the quantity and 4.61 per cent of the value, consisting largely of herring, from fishing banks off the coast of Newfoundland, and 25.33 per cent of the quantity and 24.74 per cent of the value from fishing grounds off the Canadian Provinces. Newfoundland herring constituted 1.78 per cent of the quantity and 2.51 per cent of the value of the fishery products landed at these ports during the year. The herring were taken on the treaty coast of Newfoundland, and the cod, haddock, hake, halibut, and other species from that region were obtained from fishing banks on the high seas. All fish caught by American fishing vessels off the coast of the Canadian Provinces were from offshore fishing grounds. The catch from each of these regions is given in detail in the following table:

QUANTITY AND VALUE OF FISH LANDED BY AMERICAN AND CANADIAN FISHING VESSELS AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., IN 1919, FROM FISHING GROUNDS OFF THE COAST OF THE UNITED STATES, NEWFOUNDLAND, AND CANADIAN PROVINCES.

Species.	United States.		Newfoundland.		Canadian Provinces.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Cod:								
Fresh	34,117,400	$1,466,155	775,275	$26,634	25,758,486	$839,625	60,651,161	$2,332,414
Salted	22,433	1,252	864,291	50,839	3,836,535	198,676	4,723,259	250,767
Haddock:								
Fresh	69,210,257	2,430,043	144,725	2,442	13,206,041	355,213	82,561,023	2,787,698
Salted	450	16	5,764	209	148,948	6,015	155,162	6,240
Hake:								
Fresh	3,639,362	159,146	50,245	1,110	610,349	19,513	4,299,956	179,769
Salted	1,150	47	8,000	261	30,370	976	39,520	1,284
Pollock:								
Fresh	17,687,259	357,956	3,124	59	1,005,968	21,085	18,696,351	379,100
Salted	515	15	2,669	98	52,432	1,302	55,616	1,415
Cusk:								
Fresh	1,287,319	42,502	10,952	251	726,965	17,758	2,025,236	60,511
Salted	----------	----------	4,707	177	33,255	1,481	37,962	1,658
Halibut:								
Fresh	909,566	169,430	400,488	76,206	790,007	139,465	2,100,061	385,101
Salted	2,000	320	2,453	392	10,147	1,378	14,600	2,090
Mackerel:								
Fresh	2,237,342	298,516	----------	----------	2,077,428	128,588	4,314,770	427,104
Salted	100,663	10,312	----------	----------	1,297,763	109,826	1,398,426	120,138
Herring:								
Fresh	6,858,108	50,005	----------	----------	----------	----------	6,858,108	50,005
Salted	----------	----------	3,501,777	189,783	----------	----------	3,501,777	189,783
Swordfish: Fresh	777,320	188,716	315	110	105,092	23,542	882,727	212,368
Tilefish: Fresh	33,510	1,474	----------	----------	----------	----------	33,510	1,474
Miscellaneous:								
Fresh	4,038,276	156,104	----------	----------	82,369	3,075	4,120,645	159,179
Salted	11,400	285	----------	----------	----------	----------	11,400	285
Total	140,934,330	5,332,294	5,774,785	348,571	49,772,155	1,867,518	196,481,270	7,548,383

COD.—In 1919 the fishing fleet landing fish at Boston, Gloucester, and Portland was about the same size as in the previous year. There were 9 vessels in the salt-bank fishery and 111 in the market fishery landing their fares of cod and other ground fish at these ports during the year, while large quantities of cod were also landed by vessels fishing on the shore grounds. The total catch of cod landed at these ports during the year amounted to 65,374,420 pounds, valued at

$2,583,181, of which 4,723,259 pounds, valued at $250,767, were salted. Cod ranked second in importance among the various species landed.

HADDOCK.—The catch of haddock for the year ranked first in both quantity and value, being considerably larger than that of cod. The quantity of haddock landed at these ports by fishing vessels during the year amounted to 82,716,185 pounds, valued at $2,793,938, all of which was landed fresh except 155,162 pounds, valued at $6,240. The greater part of the catch was taken on Georges Bank and in South Channel.

HAKE.—The catch of hake amounted to 4,339,476 pounds, valued at $181,053, all landed fresh except 39,520 pounds salted, valued at $1,284. There was a decline of 941,353 pounds, or 17.82 per cent, in the quantity and $92,032, or 33.70 per cent, in the value as compared with the previous year. The yield of this species has fallen off very much in the past few years. In 1916 over 13,000,000 pounds of hake were landed at these ports, and in 1910 the receipts at Boston and Gloucester were nearly 20,000,000 pounds.

POLLOCK.—The catch of pollock amounted to 18,751,967 pounds, valued at $380,515, all landed fresh except 55,616 pounds salted, valued at $1,415. There was a falling off in the catch of this species of 7,808,653 pounds in quantity and $581,570 in value as compared with the previous year.

CUSK.—The quantity of cusk landed was only 2,063,198 pounds, valued at $62,169, of which 37,962 pounds, valued at $1,658, were salted. The yield of this species was 595,062 pounds less in quantity and $40,862 less in value than in the previous year.

HALIBUT.—The catch of halibut amounted to 2,114,661 pounds, valued at $387,191, all landed fresh except 14,600 pounds salted, valued at $2,090. There was an increase in the catch of halibut of 333,657 pounds in quantity and $84,911 in value as compared with the previous year.

MACKEREL.—The total catch of fresh mackerel taken by the American fishing fleet in 1919 was 53,992 barrels, compared with 69,314 barrels in 1918, a decrease of 15,322 barrels. The total catch of salted mackerel was 7,007 barrels, compared with 13,030 barrels the previous year, a decrease of 6,023 barrels. The quantity of mackerel landed at Boston, Gloucester, and Portland by the fishing fleet during the year was 5,713,196 pounds, valued at $547,242, of which 4,314,770 pounds, valued at $427,104, were fresh and 1,398,426 pounds, valued at $120,138, were salted. These were all landed by American fishing vessels.

Mackerel were reported schooling in southern waters the latter part of April, and prospects for mackerel fishing appeared to be good; but the mackerel seiners were delayed in sailing by a strike of the crews with regard to the pay of engineers. The first seiners arrived at New York with fares of mackerel April 25, one vessel landing 32,000 pounds and another 18,000 pounds. These fish weighed from 1½ to 3 pounds, although most of them did not exceed 2 pounds, and sold for 25 cents per pound. The southern mackerel fleet numbered 30 sail of seiners and 150 sail of netters. Both the seiners and the netters had a comparatively good season. The best stock made by a seiner was $13,232, the crew sharing $330 each. The mackerel landed by the southern fleet were mostly large and medium

fish, and sold from 8 to 18 cents per pound, according to market conditions.

The first fare of mackerel from the Cape Shore was landed on June 6, and amounted to 50,000 pounds of large and medium fish, which sold for 6.35 cents per pound. All of the Cape Shore fleet landed good trips of mackerel and stocked from $4,000 to $10,000 each. The fleet numbered 32 vessels compared with 38 the previous year. The total catch of mackerel from the Cape Shore was 2,119,000 pounds fresh, and 6,275 barrels salted, compared with 1,689,000 pounds fresh, and 7,558 barrels salted in 1918. The fresh mackerel sold from 5¼ to 7 cents per pound, the salted from $16 to $18.50 per barrel.

Tinker mackerel were present in small schools along the shore from Cape Ann to Chatham during the latter part of June.

The total catch of mackerel up to July 1 was 38,787 barrels fresh, and 6,452 barrels salted, compared with 29,259 barrels fresh and 8,079 barrels salted the previous year.

Swordfish.—The quantity of swordfish landed during the year was 882,447 pounds, valued at $212,302. The number of vessels engaged in this fishery was 56, or 19 more than in the previous year, but there was a considerable falling off in the catch.

Flounders.—The catch of flounders in the vessel fisheries amounted to 2,451,856 pounds, valued at $103,050, an increase of 182,049 pounds in quantity and $9,250 in value over the previous year. The catch taken by boats under 5 tons net tonnage is not included in these statistics.

Herring.—The catch of herring amounted to 10,359,885 pounds, valued at $239,788. Of this quantity, 6,858,108 pounds, valued at $50,005, were taken off the coast of the United States and landed fresh, and 3,501,777 pounds, valued at $189,783, were salted Newfoundland herring.

VESSEL FISHERIES AT SEATTLE, WASH.

In the vessel fisheries at Seattle, Wash., there has been considerable decrease in both the quantity and value of products landed by the fishing fleet, but an increase in the products landed by collecting vessels as compared with the previous year. Statistics of the vessel fisheries at Seattle have been collected by the local agent and published as monthly and annual statistical bulletins, giving the quantity and value of fishery products landed by American fishing and collecting vessels at that port.

In 1919 the fishing fleet at Seattle landed 670 trips, aggregating 13,651,020 pounds of fish, having a value to the fishermen of $1,530,284. This catch was taken from the fishing grounds along the coast from Oregon to Albatross Bank, Alaska. The fishing areas from which the greater part of the products was obtained were Grays Harbor Grounds, Flattery Banks, West Coast of Vancouver Island, Hecate Strait, and Yakutat Grounds. The products included halibut, 11,110,720 pounds, valued at $1,422,519; sablefish, 1,553,600 pounds, valued at $74,290; "lingcod," 723,000 pounds, valued at $24,433; and rockfishes, 263,700 pounds, valued at $9,042. Compared with the previous year, there was a decrease of 164 trips by fishing vessels, and of 3,440,675 pounds, or 20.13 per cent, in quantity, and $357,369, or 18.93 per cent, in the value of the products landed. The catch of

halibut increased 866,520 pounds, or 8.46 per cent, in quantity, but decreased $106,327, or 6.95 per cent, in value. Sablefish decreased 2,801,350 pounds, or 64.32 per cent, in quantity, and $196,877, or 72.60 per cent, in value; "lingcod," 1,061,600 pounds, or 59.48 per cent, in quantity, and $37,859, or 60.77 per cent, in value; and rockfishes, 357,070 pounds, or 57.52 per cent, in quantity, and $13,857, or 60.51 per cent, in value. The falling off in the catch of these species may be attributed largely to a smaller demand than in the previous year.

The fishery products taken in Puget Sound and landed at Seattle by collecting vessels during the year amounted to 11,809,450 pounds, valued at $983,819. These products included salmon, 10,387,703 pounds, valued at $902,717; pilchard, 150,000 pounds, valued at $2,250; steelhead trout, 173,630 pounds, valued at $21,034; smelt, 296,041 pounds, valued at $14,723; rockfishes, 120,490 pounds, valued at $7,632; cod, 104,500 pounds, valued at $2,305; flounders, 99,940 pounds, valued at $2,613; sole, 104,200 pounds, valued at $3,972; crabs, 239,758 pounds, valued at $21,866; and other species amounting to 133,188 pounds, valued at $4,707. There was an increase in the products landed by collecting vessels over the previous year of 1,204,127 pounds, or 11.35 per cent, in quantity, and $71,221, or 7.80 per cent, in value. The quantity and value of fishery products landed at Seattle by fishing and collecting vessels in 1919 are given in detail in the following table:

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS (FRESH) LANDED AT SEATTLE, WASH., BY AMERICAN FISHING VESSELS, CALENDAR YEAR 1919.

	Number of trips.	Halibut.		Sablefish.	
BY FISHING GROUNDS.		*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oregon coast	21	852,000	$93,446	41,000	$1,890
Columbia River grounds	6	275,000	31,493		
Grays Harbor grounds	48	813,300	110,444	337,000	16,255
Flattery Banks	292	1,951,700	268,624	482,200	21,829
West coast, Vancouver Island	108	1,075,200	152,679	200,900	9,537
Queen Charlotte Islands grounds	3	55,000	9,040		
Hecate Strait	157	4,040,500	514,116	391,800	19,547
Coronation Island	2	39,000	5,305		
Cape Ommaney	1	65,000	8,043		
Yakutat grounds	28	1,622,300	195,799	81,200	4,310
Portlock Bank	3	224,120	21,100	3,500	107
Albatross Bank	1	97,600	12,430	16,000	815
Total	670	11,110,720	1,422,519	1,553,600	74,290
BY MONTHS.					
January	7	124,900	22,000	31,500	2,450
February	14	97,800	16,532	7,000	350
March	41	360,300	51,995	51,000	2,631
April	70	871,000	112,300	14,000	745
May	102	977,200	113,648	42,000	1,530
June	120	2,186,200	257,938	16,000	640
July	99	2,033,220	219,707	64,000	3,117
August	72	1,511,800	187,900	385,500	19,475
September	51	860,400	126,994	633,000	30,185
October	54	647,400	125,216	220,400	8,957
November	14	283,000	49,959	46,700	2,280
December	26	1,157,500	138,330	42,500	1,930
Total	670	11,110,720	1,422,519	1,553,600	74,290

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS (FRESH) LANDED AT SEATTLE, WASH., BY AMERICAN FISHING VESSELS, CALENDAR YEAR 1919—Contd.

	"Lingcod."		Rockfishes.		Total.	
BY FISHING GROUNDS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oregon coast	14,000	$105	8,000	$205	915,000	$95,646
Columbia River grounds					275,000	31,493
Grays Harbor grounds	61,000	1,750	21,000	600	1,232,300	129,049
Flattery Banks	344,200	10,673	83,500	2,702	2,861,600	303,828
West coast, Vancouver Island	211,000	8,620	84,700	3,300	1,571,800	174,136
Queen Charlotte Islands grounds	15,000	900			70,000	9,940
Hecate Strait	68,000	2,165	64,500	2,155	4,564,800	537,983
Coronation Island	1,500	60			40,500	5,365
Cape Ommaney			2,000	80	67,000	8,123
Yakutat grounds	7,000	105			1,710,500	200,214
Portlock Bank					227,620	21,207
Albatross Bank	1,300	55			114,900	13,300
Total	723,000	24,433	263,700	9,042	13,651,020	1,530,284
BY MONTHS.						
January	15,500	1,225	9,000	810	180,900	26,485
February	97,000	5,155	22,200	1,250	224,000	23,287
March	76,000	2,355	36,000	1,180	523,300	58,161
April	146,700	3,934	86,000	2,332	1,117,700	119,311
May	155,500	2,619	39,500	680	1,214,200	118,477
June	50,000	2,060	9,000	360	2,261,200	260,998
July	21,000	875	1,000	40	2,119,220	223,739
August	42,000	1,550	29,000	1,080	1,968,300	210,005
September	46,800	1,875	14,000	560	1,554,200	159,614
October	22,000	980	10,000	430	899,800	135,583
November	10,000	400			339,700	52,639
December	40,500	1,405	8,000	320	1,248,500	141,985
Total	723,000	24,433	263,700	9,042	13,651,020	1,530,284

FISHERY PRODUCTS TAKEN IN PUGET SOUND AND LANDED AT SEATTLE, WASH., BY COLLECTING VESSELS DURING 1919, BY MONTHS.

Species.	January.		February.		March.		April.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Herring	12,000	$260			34,000	$340		
Pilchard	150,000	2,250						
Salmon:								
Chum or keta	140,000	13,800						
King or spring	8,000	1,200						
Miscellaneous	8,000	1,200					31,500	$3,150
Trout: Steelhead	60,000	9,000	8,500	$1,275			62,000	7,220
Smelt	18,400	1,200					6,200	620
Rockfishes	12,000	720	8,000	320	8,500	595	3,000	210
"Lingcod"					22,000	1,320	16,000	800
Cod			86,000	1,720	18,500	585		
Flounders	6,000	120	14,200	426	11,000	280	7,000	175
Sole	14,600	468	12,500	500	18,600	744	8,600	344
Crabs	30,800	2,100	24,000	1,680			39,710	2,918
Total	459,800	32,318	153,200	5,921	112,600	3,864	174,010	15,437

FISHERY PRODUCTS TAKEN IN PUGET SOUND AND LANDED AT SEATTLE, WASH., BY COLLECTING VESSELS DURING 1919, BY MONTHS—Continued.

Species.	May.		June.		July.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Sturgeon			1,480	$84	1,588	$75
Salmon:						
King or spring	312,800	$31,280	1,412,100	155,331	889,000	92,600
Coho or silver			83,910	8,390	21,480	2,960
Sockeye or red			42,780	4,705	5,500	585
Miscellaneous	63,660	6,366				
Trout: Steelhead	28,000	2,800	34,260	3,426	12,300	1,476
Rockfishes	8,000	560	4,250	136	7,600	532
"Lingcod"			4,600	92		
Flounders	8,870	176	12,420	248	4,520	90
Sole	2,200	88			1,500	60
Other fish					10,210	102
Crabs	13,612	928	10,340	1,240		
Total	437,142	42,198	1,606,140	173,652	953,698	98,480

Species.	August.		September.		October.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Sturgeon	2,850	$256	3,600	$216	3,600	$288
Salmon:						
Humpback or pink	592,400	35,544	516,800	31,008		
Chum or keta	485,948	24,297	457,040	27,420	662,389	33,119
King or spring	406,312	40,631	608,000	60,800	90,470	9,047
Coho or silver	163,880	9,932	1,233,600	123,360	244,424	24,424
Sockeye or red	34,930	3,493	6,300	63		
Trout: Steelhead	3,510	351			8,690	869
Smelt	116,461	5,823	135,080	6,400		
Perch					8,000	480
Rockfishes	6,000	420	14,300	1,001	12,840	898
"Lingcod"	2,130	42	7,000	210		
Flounders	9,530	336			4,000	80
Sole	11,600	464	4,000	160	12,000	480
Crabs					21,020	1,060
Total	1,835,551	121,589	2,985,720	250,638	1,067,433	70,745

Species.	November.		December.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Sturgeon					13,118	$919
Herring					46,000	600
Pilchard					150,000	2,250
Salmon:						
Humpback or pink					1,109,200	66,552
Chum or keta	957,750	$47,887	709,000	$88,625	3,412,127	235,148
King or spring	23,100	2,310	20,770	2,590	3,802,052	398,939
Coho or silver	93,860	9,380			1,841,154	178,446
Sockeye or red					89,510	8,846
Miscellaneous					133,660	14,786
Trout: Steelhead	12,170	1,217			173,630	21,034
Smelt	26,100	1,300			296,041	14,723
Perch					8,000	480
Rockfishes	20,000	1,400	16,000	840	120,490	7,632
"Lingcod"			4,130	142	55,860	2,606
Cod					104,500	2,305
Flounders	9,800	246	12,600	436	99,940	2,613
Sole			18,600	664	104,200	3,972
Other fish					10,210	102
Crabs	74,976	10,215	25,300	1,725	[1] 239,758	21,866
Total	1,217,756	73,955	806,400	95,022	11,809,450	983,819

[1] 11,005 dozen.

FISHERY PRODUCTS RECEIVED AT MUNICIPAL FISH WHARF AND MARKET, WASHINGTON, D. C.

Through the courtesy of the health department of the District of Columbia the Bureau has continued to receive daily reports of the quantity of fishery products received at the Municipal Fish Wharf and Market, Washington, D. C. These products, which are sold to the

retail markets of the city and also to some extent at retail at this market, it is estimated, represent about 60 per cent of the receipts for the city of Washington. In the following table, in which the statistics are given by months, it will be noted that the five most important products in terms of quantity are: Oysters, 2,146,107 pounds; squeteagues or "sea trout," 2,097,569 pounds; shad, 1,227,459 pounds; river herring, fresh and salted, 1,163,847 pounds; and croaker, 824,047 pounds; a total of 7,459,029 pounds, or 69.49 per cent of the entire receipts for the year, which amounted to 10,733,086 pounds. Such well-known forms as butterfish, carp, catfish, cod, croaker, eels, flounders, haddock, halibut, mullet, perch, pollock, squeteagues or "sea trout," striped bass, clams, oysters, and crabs, including crab meat, were received during each of the 12 months. March, April, and May were the months of the largest receipts; July and August, of the smallest.

FISHERY PRODUCTS RECEIVED AT MUNICIPAL FISH WHARF AND MARKET, WASHINGTON, D. C., IN 1919.

Species.	January.	February.	March.	April.	May.	June.	July.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Bass, black and sea	24,677	11,403	8,331	400	15,544	11,402	4,995
Bluefish	75	.....	.....	500	3,714	2,360	1,685
Bowfin	100	.....	.....	.....	.....	.....	.....
Butterfish	16,912	3,375	8,990	4,775	39,750	49,860	73,395
Carp	8,986	6,743	8,984	19,354	21,903	6,645	4,464
Catfish	8,547	10,619	42,166	31,551	15,369	14,412	9,248
Cisco	500	.....	.....	.....	.....	.....	.....
Cod	8,950	14,200	11,800	5,600	4,351	6,300	4,835
Crappie	5,007	800	.....	.....	.....	.....	.....
Crevalle	200	.....	.....	.....	.....	.....	.....
Croaker	21,547	15,740	19,708	361,785	144,147	48,973	89,730
Drum, red	.....	80	.....	.....	.....	.....	.....
Eels	83	553	3,355	2,569	1,878	500	446
Flounders	21,965	9,670	10,777	18,786	18,028	10,372	6,369
Gizzard shad	10,291	2,503	.....	350	50	30	395
Haddock	19,700	24,275	23,150	11,950	10,350	9,400	8,585
Hake	.....	.....	.....	.....	100	.....	.....
Halibut	2,168	10,857	3,850	4,800	3,625	3,125	5,775
Herring:							
River, fresh	31,133	79,278	281,011	491,501	116,389	285	.....
River, salted	.....	.....	.....	6,750	98,750	28,750	.....
Hickory shad or "jacks"	2,335	5,487	4,076	2,184	169	.....	.....
Kingfish	.....	.....	.....	1,860	200	.....	.....
Mackerel	88,000	48,100	5,300	7,000	14,846	57,160	7,116
Mullet	1,874	5,369	366	200	110	55	128
Perch	20,542	29,558	62,500	35,073	12,518	5,327	4,775
Pigfish	.....	.....	.....	.....	300	.....	.....
Pike or pickerel	3,003	3,409	1,643	511	.....	.....	.....
Pollock	10,725	3,725	350	4,550	3,150	4,050	4,885
Salmon	450	.....	.....	.....	.....	187	150
Scup or porgy	.....	.....	.....	.....	225	500	600
Shad	14,509	38,422	254,349	751,846	149,423	6,232	.....
Sheepshead	600	860	200	200	.....	.....	.....
Smelt	3,175	875	125	.....	.....	.....	.....
Snappers	.....	.....	.....	.....	.....	328	.....
Spot	2,400	200	.....	2,200	4,980	1,926	23,543
Squeteagues or "sea trout"	108,346	38,064	23,547	81,749	569,236	353,521	91,650
Striped bass	2,692	5,275	65,638	37,479	8,078	17,542	14,470
Sturgeon	66	.....	50	400	307	162	.....
Tilefish	2,275	1,500	2,550	3,925	1,975	450	.....
Whitefish	200	.....	.....	.....	.....	.....	.....
Whiting	43,093	66,389	30,569	.....	600	4,200	16,000
Clams, hard	5,664	5,376	7,360	11,552	17,792	13,184	14,816
Oysters:							
In the shell	193,907	130,319	143,297	51,086	8,239	1,722	420
Opened	133,403	84,909	81,584	43,246	4,233	.....	.....
Squid	.....	.....	.....	.....	100	.....	.....
Crabs	.....	75	180	6,015	21,450	48,935	94,500
Crab meat	3,925	4,205	6,175	9,400	16,545	20,555	15,820
Lobster	.....	.....	.....	.....	.....	50	75
Shrimp	1,690	1,650	650	450	1,550	1,218	.....
Terrapin	240	.....	.....	.....	.....	.....	.....
Turtles	560	.....	.....	.....	4,361	786	150
Total	824,515	663,863	1,112,631	2,011,597	1,334,335	730,504	499,020

FISHERY PRODUCTS RECEIVED AT MUNICIPAL FISH WHARF AND MARKET, WASHINGTON, D. C., IN 1919—Continued.

Species.	August.	September.	October.	November.	December.	Total.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Bass, black and sea	356	914	10,905	14,355	27,328	130,610
Bluefish	8,634	8,310	12,350	3,500	2,600	43,728
Bowfin						100
Butterfish	50,525	31,664	23,000	6,900	350	309,496
Carp	4,814	8,497	11,496	9,073	5,974	116,933
Catfish	7,880	18,654	35,930	21,277	10,687	226,340
Cisco						500
Cod	1,000	3,025	8,400	10,400	10,220	89,081
Crappie						5,807
Crevalle						200
Croaker	40,157	13,700	42,700	24,510	1,350	824,047
Drum, red	400		1,200		300	1,980
Eels	208	805	3,029	1,629	556	15,611
Flounders	3,558	9,068	9,147	16,015	11,172	144,927
Gizzard shad	1,094	5,465	5,972	10,334	13,156	49,640
Haddock	4,025	17,725	12,350	11,800	13,600	166,910
Hake			1,600	36,400	14,300	52,400
Halibut	3,528	2,400	1,200	4,320	4,775	50,423
Herring:						
River, fresh						999,597
River, salted			30,000			164,250
Sea			[1] 400		42,400	42,800
Hickory shad or "jacks"						14,251
Kingfish		200		200		2,460
Mackerel	6,935	7,415	9,800	20,100	37,113	308,885
Mullet	287	858	1,233	4,769	953	16,202
Perch	4,512	3,184	7,714	16,451	12,560	214,714
Pigfish				1,600		1,900
Pike or pickerel	15	357	5,969	2,348	3,810	21,065
Pollock	1,010	2,800	5,600	16,400	18,000	75,245
Salmon	152		3,000	5,150	800	9,889
Scup or porgy	195	400				1,920
Shad	1,094	3,440	4,120	3,774	250	1,227,459
Sheepshead						1,860
Smelt					641	4,816
Snappers						328
Spot	5,392	28,377	37,300	6,200	600	113,118
Squeteagues or "sea trout"	195,446	243,108	239,287	104,700	48,915	2,097,569
Striped bass	7,984	25,833	37,788	28,676	12,056	263,511
Sturgeon	112					1,097
Tilefish			725	700	275	14,375
Tuna			460			460
Whitefish				400	200	800
Whiting	1,000	2,800	100	49,000	51,147	264,898
Clams, hard	11,904	7,328	9,888	6,656	6,496	118,016
Oysters:						
In the shell	700	34,293	168,945	280,518	170,772	[2] 1,184,218
Opened	2,568	34,716	121,789	235,245	220,196	[3] 961,889
Scallops			240	648	160	1,048
Squid						100
Crabs	47,640	20,985	4,170	75		244,025
Crab meat	12,595	1,190	6,660	8,035	4,555	109,660
Lobster			200		900	1,225
Shrimp	326		2,980	900	200	11,614
Terrapin						240
Turtles	237		1,835	100	820	8,849
Total	426,283	537,511	879,482	963,158	750,187	10,733,086

[1] Smoked.

[2] 169,174 bushels. The oysters have been reduced to pounds on the basis of 7 pounds of meat to a bushel, and 8¼ pounds to a gallon.

[3] 116,592 gallons.

SHAD FISHERY OF THE HUDSON RIVER.

The Bureau has collected the statistics of the shad fishery of the Hudson River without interruption for the five-year period 1915 to 1919, inclusive. In 1919 there were 299 men engaged in this fishery, using 158 boats valued at $6,700, 373 gill nets valued at $15,269, 12 seines valued at $1,700, and shore and accessory property valued at $7,920, a total investment of $31,589. The catch numbered 90,301 fish, or 374,974 pounds, valued at $83,724. Of this quantity

76,501 shad, or 301,306 pounds, valued at $60,690, were taken on the New York side of the river and 13,800 fish, or 73,668 pounds, valued at $23,034, on the New Jersey side.

From the table of comparative statistics it will be noted that this fishery reached its lowest level in 1916, not only in the size and value of the catch but in number of men engaged and boats and gear used. Compared with 1916 there was an increase in 1919 of 180 fishermen, or 151.26 per cent; of 88 boats, or 125.71 per cent; of 294 gill nets, or 372.15 per cent; of 9 haul seines, or 300 per cent; of 81,014 shad, or 872.33 per cent; and of $78,259 in the value of the product, or 1,432 per cent.

The principal apparatus of capture is the gill net. Of the total number of fish taken in 1915, 98 per cent were caught with gill nets; in 1916, 97 per cent; in 1917, 91 per cent; in 1918, 97 per cent; and in 1919, 98 per cent. The average number of fish taken per gill net for the various years follows: In 1915, 181; in 1916, 114; in 1917, 56; in 1918, 247; and 1919, 242. The value of the factor—that is, the average catch per gill net—as an index to the relative size of the runs of shad in the river is difficult to estimate. If this may be considered a reliable index, then the number of fish entering the river in 1917 was smaller than in 1916 and the runs for 1918 and 1919 were markedly larger than for the other years.

The results of the yearly canvasses are of considerable interest to those interested in the reestablishment of an extensive shad fishery in the Hudson River and in other rivers in which the supply has been seriously depleted as a source of possible light on the effects of protective measures which have been promulgated to afford better protection and to allow more fish to reach the spawning grounds.

SHAD FISHERY OF THE HUDSON RIVER, 1919.

Items.	New York.			New Jersey.			Total.		
	Number.	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*
Fishermen	290			9			299		
Rowboats	154		$6,205	3		$375	157		$6,580
Gasoline	1		120				1		120
Gill nets	359		13,469	14		1,800	373		15,269
Seines	12		1,700				12		1,700
Shore and accessory property			3,920			4,000			7,920
Total			25,414			6,175			31,589
Shad caught:									
With gill nets	75,060	296,259	59,544	13,800	73,668	23,034	88,860	369,927	82,578
With seines	1,441	5,047	1,146				1,441	5,047	1,146
Total	76,501	301,306	60,690	13,800	73,668	23,034	90,301	374,974	83,724

COMPARATIVE STATISTICS OF SHAD FISHERY OF THE HUDSON RIVER, 1915 to 1919.

Year.	Personnel and investment.						Catch.		
	Fishermen.	Rowboats.	Gas boats.	Gill nets.	Haul seines.	Investment.	Number.	Pounds.	Value.
1915	160	88	4	86	2	$11,197	15,855	68,668	$8,643
1916	119	67	3	79	3	7,845	9,287	40,173	5,465
1917	149	74	2	215	13	14,595	12,015	43,384	6,540
1918	227	123	2	273	15	20,107	67,403	234,602	48,184
1919	299	157	1	373	12	31,589	90,301	374,974	83,724

SHAD AND ALEWIFE FISHERY OF THE POTOMAC RIVER.

The results of a yearly canvass of the shad fishery of the Hudson River where no shad-cultural operations are being practiced is given above. Believing that data of value might result from annual canvasses for a river on which extensive shad-cultural operations are being conducted, a canvass of the shad and alewife fisheries of the Potomac River for 1919 has been made, and it is planned to continue this canvass.

In 1919 there were 789 persons engaged in this fishery, using 514 boats valued at $80,685; 306 pound nets valued at $159,810; 267 gill nets and one haul seine, the latter being operated in Maryland, valued at $26,761; and shore and accessory property valued at $610; a total investment of $267,866. The catch of shad numbered 544,469, or 2,040,473 pounds, valued at $332,397. Of this quantity 94,512 shad, or 342,988 pounds, valued at $56,833, were taken by Maryland fishermen, and 449,957 shad, or 1,697,485 pounds, valued at $275,564, by Virginia fishermen. The catch of alewives numbered 8,867,902, or 3,676,921 pounds, valued at $61,016. Of this quantity, 1,488,583 alewives, or 772,867 pounds, valued at $15,508, were taken by Maryland fishermen and 7,379,319 alewives, or 2,904,054 pounds, valued at $45,508, by Virginia fishermen.

As shown by the table of comparative statistics, the catch of shad in 1919 was much larger than in any of the years since 1901 for which statistical canvasses have been made. Compared with 1915, there was an increase of 198.5 per cent in the number of fish taken and 360.8 per cent in value. Whereas some years ago the river channel was in places practically closed by pound nets and the continued existence of a commercial fishery threatened through the inability of sufficient fish to reach the spawning ground, at present such nets may be set out from shore at a distance not greater than one-third the width of the river.

SHAD AND ALEWIFE FISHERY OF THE POTOMAC RIVER, 1919.

Items.	Maryland.			Virginia.			Total.		
	Number.	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*	*Number.*	*Pounds.*	*Value.*
Fishermen	227	.....	.....	562	.....	.....	789	.....	.....
Rowboats	82	.....	$3,300	220	.....	$6,072	302	.....	$10,272
Gasoline	33	.....	7,255	179	.....	63,158	212	.....	70,413
Pound nets	101	.....	12,400	205	.....	147,410	306	.....	159,810
Gill nets and seines [1]	65	.....	9,253	203	.....	17,508	268	.....	26,761
Shore and accessory property	.....	.....	25	.....	.....	585	.....	.....	610
Total	.....	.....	32,233	.....	.....	235,633	.....	.....	267,866
Shad caught:									
With pound nets	8,941	36,061	5,498	251,986	951,954	166,694	260,927	988,015	172,192
With gill nets and seines [1]	85,571	306,927	51,335	197,971	745,531	108,870	283,542	1,052,458	160,205
Total	94,512	342,988	56,833	449,957	1,697,485	275,564	544,469	2,040,473	332,397
Alewives caught:									
With pound nets	1,258,083	691,500	13,158	6,486,719	2,606,520	34,550	7,744,802	3,298,020	47,708
With gill nets and seines [1]	230,500	81,367	2,350	892,600	297,534	10,958	1,123,100	378,901	13,308
Total	1,488,583	772,867	15,508	7,379,319	2,904,054	45,508	8,867,902	3,676,921	61,016

[1] Includes one haul seine, with the catch, operated in Maryland.

COMPARATIVE STATISTICS OF PRODUCTS OF SHAD AND ALEWIFE FISHERY OF THE POTOMAC RIVER FOR VARIOUS YEARS FROM 1896 TO 1919.

Year.	Maryland.		Virginia.		Total.	
	Number.	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Shad:						
1896	233,238	$20,524	450,825	$43,084	684,063	$63,608
1901	146,000	14,800	648,462	104,566	794,462	119,366
1904	83,147	16,343	289,500	51,709	372,647	68,052
1909	31,158	9,232	172,813	44,500	203,971	53,732
1915	17,196	6,827	165,206	65,300	182,402	72,127
1919	94,512	56,833	449,957	275,564	544,469	332,397
Alewives:						
1909	4,883,000	10,369	24,601,040	42,854	29,484,040	53,223
1915	335,000	1,420	7,276,428	30,741	7,611,428	32,161
1919	1,488,583	15,508	7,379,319	45,508	8,867,902	61,016

FISHERIES OF THE GREAT LAKES, LAKE OF THE WOODS, AND RAINY LAKE IN 1917.

The statistics of the fisheries of the Great Lakes, and Lake of the Woods, Rainy Lake, and Lakes Kabetogama and La Croix, Minn., presented in this report are for the calendar year 1917. The canvass of these fisheries was made by Winthrop A. Roberts and Rob Leon Greer, agents of this Bureau, and the statistics obtained have already been published in condensed form in Statistical Bulletin No. 436, and in "Fishery Industries of the United States. Report of the Division of Statistics and Methods of the Fisheries for 1918," Appendix X, Report, U. S. Commissioner of Fisheries, 1918, pages 42 to 47. The detailed statistics are published for the first time in the present report.

EARLIER PUBLICATIONS.

Earlier publications relating to the fisheries of the Great Lakes and published in Washington, D. C., are the following:

The Fisheries of the Great Lakes. Elaborated from notes gathered by Mr. Ludwig Kumlien, by Frederick W. True. The Fishery Industries of the United States, 1887, Section II, A Geographical Review of the Fisheries Industries and Fishing Communities for the year 1880, pp. 631–673.

The Fisheries of the Great Lakes, by Ludwig Kumlien. The Fishery Industries of the United States, 1887, Section V, vol. 1, pp. 755–769.

Report on an Investigation of the Fisheries of Lake Ontario, by Hugh M. Smith. Bulletin, U. S. Fish Commission, Vol. X, 1890, pp. 177–215.

Review of the Fisheries of the Great Lakes in 1885, compiled by Hugh M. Smith and Merwin-Marie Snell, with Introduction and Description of Fishing Vessels by J. W. Collins. Appendix, Report of Commissioner, U. S. Commission of Fish and Fisheries, 1887, pp. 1–333.

Report on the Fisheries of the Great Lakes, by Hugh M. Smith. Appendix, Report of Commissioner, U. S. Commission of Fish and Fisheries, 1892, pp. 361–462.

Report of the Division of Statistics and Methods of the Fisheries, by Hugh M. Smith. Report of Commissioner, U. S. Commission of Fish and Fisheries, 1895, pp. 93–103.

Report of the Joint Commission relative to the Preservation of the Fisheries in Waters Contiguous to Canada and the United States, by Richard Rathbun and William Wakeham. House Executive Document No. 315, Fifty-fourth Congress, second session, 1897, pp. 1–178.

Fisheries of Lake Ontario. Report of Commissioner, U. S. Commission of Fish and Fisheries, 1898, pp. CLII–CLVI.

Statistics of Certain Fisheries of the New England and Middle Atlantic States and the Great Lakes. Report, U. S. Fish Commission, 1898, pp. CLXVI–CLXXV. (In this report the figures presented relate to the fiscal year 1897.)

Statistics of the Fisheries of the Great Lakes. Appendix, Report of Commissioner, U. S. Commission of Fish and Fisheries, 1901, pp. 575–657.
Statistics of the Fisheries of the Great Lakes in 1903. Appendix, Report, U. S. Bureau of Fisheries, 1904, pp. 643–731.
Fisheries of the United States, 1908. Special Report, Bureau of the Census, 1911.

COMMON AND SCIENTIFIC NAMES OF FISHES OF THE GREAT LAKES.

For the sake of clarity as to the species referred to in the tables and discussions of the fisheries of the Great Lakes, the following list of common and scientific names of fishes is appended, the common name being the first given in every instance.

Bowfin	*Amiatus calvus.*
Burbot	*Lota maculosa.*
Carp, Asiatic	*Cyprinus carpio.*
Catfish	Ameirus (species).
	Ictalurus punctatus.
Ciscoes[1]	Leucichthys (species).[1]
Eel	*Anguilla chrysypa.*
Gold-eye	*Amphiodon alosoides.*
Muskellunge	*Esox masquinongy.*
Pike	*Esox lucius.*
	Esox vermiculatus.
Pike perch (blue pike)	*Stizostedion vitreum.*
Pike perch (wall-eyed or yellow pike)	*Stizostedion vitreum.*
Rock bass	*Ambloplites rupestris.*
Sauger	*Stizostedion canadense griseum.*
Sheepshead or drum	*Aplodinotus grunniens.*
Sturgeon	*Acipenser rubicundus.*
Suckers	Catostomidæ (species).
Sunfishes	Centrarchidæ (species).
Trout, lake	*Cristivomer namaycush.*
Trout, steelhead	*Salmo gairdneri.*
White bass	*Roccus chrysops.*
Whitefish, common	*Coregonus clupeiformis.*
	Coregonus albus.
Whitefish, menominee	*Coregonus quadrilateralis.*
Yellow perch	*Perca flavescens.*

GENERAL STATISTICS.

In presenting the detailed statistics of the fisheries of the Great Lakes it has been necessary to make some revisions of the preliminary statistics previously published, and the statistics of the fisheries of Lake of the Woods, Rainy Lake, and Lakes Kabetogama and La Croix are shown in separate tables.

The number of persons engaged in the fisheries of this entire region in 1917 was 9,416; the investment was $10,732,879; and the products amounted to 106,436,392 pounds, valued at $6,413,527.

In the fisheries of the Great Lakes in 1917 the number of persons engaged was 9,221, of whom 2,141 were on vessels fishing and transporting fishery products, 5,076 in the shore or boat fisheries, and 2,004 employed as shoresmen in the fisheries and wholesale fishery trade. In the fisheries of the various lakes the number of persons engaged was as follows: Superior, 1,348; Michigan, 3,313; Huron, 1,348; St. Clair and the St. Clair River, 64; Erie, 2,770; and Ontario, including the St. Lawrence and Niagara Rivers, 378. Compared with the returns for 1903, the year for which the last previous canvass was made by

[1] Includes lake herring, chub, longjaw, bluefin or blackfin, and tullibee.

the Bureau, there was an increase of 430 persons in Lake Superior, 72 in Lake Michigan, and 43 in Lake Erie, but a decrease of 356 in Lake Huron, 291 in Lake St. Clair and St. Clair River, and 10 in Lake Ontario, a total decrease of 112.

The investment in the fisheries and related industries amounted to $10,555,669, apportioned among the lakes as follows: Superior, $841,006; Michigan, $4,038,927; Huron, $1,188,705; St. Clair and St. Clair River, $15,955; Erie, $4,332,767; and Ontario, $138,309.

The investment included 585 steam and gasoline vessels engaged in fishing and transporting fishery products, of 7,844 net tons, valued at $1,512,983, with outfits valued at $372,106; 3,354 sail, row, and power boats valued at $536,763; fishing apparatus used on vessels and boats to the value of $2,630,388; shore and accessory property valued at $4,478,143; and cash capital amounting to $1,025,286. The apparatus of capture consisted principally of 8,333 pound nets and trap nets valued at $1,179,256 and 153,277 gill nets valued at $1,237,702. The investment, as compared with the returns for 1903, has increased in all the lakes except Lake St. Clair, the total increase being $3,081,247.

The products of the fisheries amounted to 104,269,223 pounds, having a value to the fishermen of $6,695,019. The yield of the various lakes was as follows: Superior, 15,547,432 pounds, valued at $726,674; Michigan, 35,460,628 pounds, valued at $2,270,859; Huron, 13,363,207 pounds, valued at $857,478; St. Clair and the St. Clair River, 133,330 pounds, valued at $11,852; Erie, 38,710,238 pounds, valued at $2,327,299; and Ontario and the St. Lawrence and Niagara Rivers, 1,054,388 pounds, valued at $100,857.

The principal species taken, including fresh, salted, and smoked fish, were carp, 7,563,347 pounds, valued at $331,938; ciscoes, which include lake herring, chub, longjaw, bluefin or blackfin, and tullibee, 53,529,325 pounds, valued at $2,609,917; pike perch, which include blue pike and wall-eyed or yellow pike, 4,599,524 pounds, valued at $438,299; sauger, 3,929,172 pounds, valued at $240,035; sheepshead or drum, 2,901,994 pounds, valued at $70,936; suckers, 5,362,428 pounds, valued at $204,881; lake trout, 13,344,139 pounds, valued at $1,286,704; whitefish, common, including caviar, 6,192,123 pounds, valued at $723,424; and yellow perch, 4,206,011 pounds, valued at $245,223. Various other species were also taken in considerable quantities. Compared with the returns for 1903, there has been an increase in the products of the fisheries of the Great Lakes of 18,074,406 pounds in quantity and of $3,549,518 in value. There has been considerable increase in both the quantity and value of the products in Lake Superior, Lake Michigan, Lake Huron, and Lake Erie, but a decrease in both quantity and value in Lake St. Clair, and a decrease in quantity with a large increase in value in Lake Ontario.

Compared with the returns for 1908, published by the Bureau of the Census, there was an increase of 8.06 per cent in the number of persons engaged, and of 119.27 per cent in the amount of capital invested, but there was a decrease of 2.21 per cent in the quantity, with an increase of 67.10 per cent in the value of the products. There was a large increase in the catch of burbot, cisco or lake herring, sheepshead or drum, and lake trout, but a decrease in carp, pike, pike perch, whitefish, and a number of other species. Compared with the statistics for 1903, published by the Bureau, there was a decrease of

1.20 per cent in the number of persons engaged, but an increase of 41.22 per cent in the amount of capital invested, and of 20.96 per cent in the quantity, and 129.28 per cent in the value of the products. There was considerable increase in nearly all of the more important species except pike perch, lake trout, and yellow perch. The increase in burbot, and possibly some of the other species, is, no doubt, due to the work of the Bureau in encouraging the more extensive use as food of species heretofore little used for that purpose.

The following tables present by lakes the number of persons engaged, the amount of capital invested, and the quantity and value of the products of the fisheries of the Great Lakes in 1917, and also comparative statistics of the extent of these fisheries in various years from 1880 to 1917:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF THE GREAT LAKES IN 1917.

Items.	Lake Superior.		Lake Michigan.		Lake Huron.		Lake St. Clair.[1]	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number*	*Value.*
On vessels fishing	166		1,096		149			
On vessels transporting	51		81		29			
Inshore fisheries	854		1,285		1,023		64	
Shoresmen	277		851		147			
Total	1,348		3,313		1,348		64	
INVESTMENT.								
Vessels fishing, steam	12	$52,800	92	$397,650	13	$57,500		
Tonnage	302		1,795		266			
Outfit		11,089		122,885		22,450		
Vessels, fishing, gasoline	4	20,500	240	234,310	13	19,000		
Tonnage	104		2,113		113			
Outfit		5,550		56,636		5,540		
Vessels, transporting, steam	4	56,000			2	7,000		
Tonnage	194				24			
Outfit		17,880				500		
Vessels, transporting, gasoline	7	19,500	60	38,225	19	33,500		
Tonnage	68		495		169			
Outfit		3,915		4,515		4,750		
Sail and row boats	417	10,220	428	9,943	310	8,020	60	$1,640
Power boats	280	82,405	311	91,595	260	103,960	4	900
Apparatus, vessel fisheries:								
Gill nets	1,806	31,995	57,453	535,616	6,613	69,575		
Lines		960		25,733		3,844		
Apparatus, shore fisheries:								
Pound nets and trap nets	204	26,262	1,134	242,570	1,731	207,904		
Gill nets	9,311	112,991	26,354	109,458	3,997	33,260		
Fyke nets			3,343	39,795	460	12,135		
Seines	5	325	61	18,120	77	7,960	6	1,365
Lines		4,813		2,135		2,095		50
Crawfish pots			6,400	1,600				
Other apparatus						1,520		
Shore and accessory property		341,310		1,758,341		432,092		12,000
Cash capital		42,500		349,800		156,100		
Total		841,006		4,038,927		1,188,705		15,955
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfin	2,675	170			200	4		
Burbot			166,785	1,436	2,174	51		
Carp, Asiatic			246,503	7,500	1,145,250	43,474	85,330	4,652
Catfish and bullheads			164,466	6,627	33,329	3,295		
Ciscoes:								
Fresh	5,692,498	169,048	15,341,588	706,638	3,277,573	120,705		
Frozen	3,302,357	150,810						
Salted	3,258,227	139,959	2,917,766	139,344	2,100,792	94,957		
Smoked	5,400	432			3,000	120		
Muskellunge					145	15		
Pike	5,700	555	40,597	3,375	12,354	1,175		

[1] Includes St. Clair River.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF THE GREAT LAKES IN 1917—Continued.

Items.	Lake Superior.		Lake Michigan.		Lake Huron.		Lake St. Clair.	
PRODUCTS—continued.								
Pike perch:								
Wall-eyed or yellow pike, fresh	*Pounds.* 27,979	*Value.* $3,774	*Pounds.* 132,024	*Value.* $18,445	*Pounds.* 994,642	*Value.* $119,231	*Pounds* 48,000	*Value.* $7,200
Wall-eyed or yellow pike, salted					30	3		
Rock bass			1,714	137	4,283	208		
Sheepshead or drum			28,412	796	17,731	615		
Sturgeon			10,805	2,517	4,886	1,063		
Sturgeon caviar			346	904	227	495		
Suckers:								
Fresh	326,203	13,184	2,104,453	74,859	1,775,767	72,883		
Salted	15,850	560	14,110	625	1,000	50		
Sunfishes					1,650	68		
Trout, lake:								
Fresh	2,537,081	209,597	8,647,895	852,879	2,070,797	213,790		
Frozen	44,000	5,800						
Salted	7,272	576	2,820	259	8,658	784		
Trout, steelhead			21,950	3,349				
White bass			1,275	77				
Whitefish:								
Common, fresh	302,210	30,943	3,045,448	323,162	993,501	124,050		
Common, salted			1,945	201	3,350	330		
Common, caviar					1,375	257		
Menominee, fresh	12,080	682	100,332	4,829	46,457	2,191		
Menominee, salted	2,900	228	26,103	1,973	20,017	1,200		
Yellow perch:								
Fresh	5,000	356	2,361,071	116,419	844,019	56,464		
Salted			1,725	81				
Crawfish			80,495	4,427				
Total	15,547,432	726,674	35,460,628	2,270,859	13,363,207	857,478	133,330	11,852

Items.	Lake Erie.[1]		Lake Ontario.[2]		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	517		2		1,930	
On vessels transporting	48		2		211	
Inshore fisheries	1,487		363		5,076	
Shoresmen	718		11		2,004	
Total	2,770		378		9,221	
INVESTMENT.						
Vessels, fishing, steam	73	$469,398			190	$977,348
Tonnage	1,700				4,063	
Outfit		93,679				249,494
Vessels, fishing, gasoline	20	39,000	1	$1,200	278	314,010
Tonnage	183		8		2,521	
Outfit		7,986		20		76,332
Vessels, transporting, steam	5	24,500			11	87,500
Tonnage	111				329	
Outfit		5,200				23,580
Vessels, transporting, gasoline	19	41,600	1	1,300	106	134,125
Tonnage	193		10		935	
Outfit		9,455		65		22,700
Sail and row boats	602	27,370	189	4,765	2,006	61,958
Power boats	414	178,815	79	17,130	1,348	474,805
Apparatus, vessel fisheries:						
Gill nets	38,007	272,577	3	40	103,882	909,803
Lines						30,537
Apparatus, shore fisheries:						
Pound nets and trap nets	5,011	681,060	353	21,460	8,433	1,179,256
Gill nets	9,571	57,055	162	15,135	49,395	327,899
Fyke nets	801	44,403	334	4,374	4,938	100,707
Seines	285	38,867	12	610	446	67,247
Lines		741		1,174		11,008
Crawfish pots					6,400	1,600
Fishing machines			7	795	7	795
Other apparatus		10		6		1,536
Shore and accessory property		1,884,165		50,235		4,478,143
Cash capital		456,886		20,000		1,025,286
Total		4,332,767		138,309		10,555,669

[1] Includes men and investment in the wholesale fish trade of Detroit.
[2] Includes St. Lawrence and Niagara Rivers.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF THE GREAT LAKES IN 1917—Continued.

Items.	Lake Erie.		Lake Ontario.		Total.	
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfin	5,165	$69	7,046	$350	15,086	$593
Burbot	652,870	8,027	61,760	2,388	883,589	11,902
Carp, Asiatic	6,044,792	274,139	41,472	2,173	7,563,347	331,938
Catfish and bullheads	628,532	39,232	47,934	5,935	874,261	55,089
Ciscoes:						
Fresh	17,160,852	1,046,862	460,363	39,991	41,932,874	2,083,244
Frozen					3,302,357	150,810
Salted			8,909	1,051	8,285,694	375,311
Smoked					8,400	552
Eel			43,007	3,402	43,007	3,402
Gold-eye	10,335	104			10,335	104
Muskellunge					145	15
Pike	5,666	550	16,191	2,149	80,508	7,804
Pike perch:						
Blue pike	2,057,073	135,241	45,730	4,784	2,102,803	140,025
Wall-eyed or yellow pike, fresh	1,291,456	149,163	2,590	458	2,496,691	298,271
Wall-eyed or yellow pike, salted					30	3
Rock bass	100	5	7,525	463	13,622	813
Sauger	3,929,172	240,035			3,929,172	240,035
Sheepshead or drum	2,855,551	69,502	300	23	2,901,994	70,93
Sturgeon	28,384	6,064	51,141	12,057	95,216	21,701
Sturgeon, caviar	1,018	2,045	544	1,232	2,135	4,676
Suckers:						
Fresh	1,035,934	36,403	89,111	6,317	5,331,468	203,646
Salted					30,960	1,235
Sunfishes			23,885	1,327	25,535	1,395
Trout, lake:						
Fresh	1,922	201	23,694	2,818	13,281,389	1,279,285
Frozen					44,000	5,800
Salted					18,750	1,619
Trout, steelhead					21,950	3,349
White bass	286,112	17,212			287,387	17,289
Whitefish:						
Common, fresh	1,755,947	232,761	88,347	11,720	6,185,453	722,636
Common, salted					5,295	531
Common, caviar					1,375	257
Menominee, fresh					158,869	7,702
Menominee, salted					49,020	3,401
Yellow perch:						
Fresh	959,357	69,684	34,839	2,219	4,204,286	245,142
Salted					1,725	81
Crawfish					80,495	4,427
Total	38,710,238	2,327,299	1,054,388	100,857	104,269,223	6,295,019

COMPARATIVE STATISTICS OF THE FISHERIES OF THE GREAT LAKES FOR VARIOUS YEARS FROM 1880 TO 1917.

PERSONS ENGAGED.

Lake.	1880	1885	1890	1893	1899	1903	1908	1917
Superior	414	914	653	916	613	918	792	1,348
Michigan	1,578	3,379	2,877	3,928	3,255	3,241	2,706	3,313
Huron	470	892	726	944	1,241	1,704	1,382	1,348
St. Clair [1]	356	272	611	529	442	355	221	64
Erie [2]	1,620	4,298	4,482	3,622	3,728	2,727	3,142	2,770
Ontario [3]	612	600	389	241	391	388	296	378
Total	5,050	10,355	9,738	10,180	9,670	9,333	8,539	9,221

[1] Includes St. Clair and Detroit Rivers. There was no fishing in Detroit River in 1917.
[2] Includes persons in wholesale trade of Detroit, Mich.
[3] Includes St. Lawrence and Niagara Rivers.

COMPARATIVE STATISTICS OF THE FISHERIES OF THE GREAT LAKES FOR VARIOUS YEARS FROM 1880 TO 1917—Continued.

APPARATUS AND CAPITAL EMPLOYED.

Lake and year.	Vessels and boats.[1]		Pound nets and trap nets.		Gill nets.		Seines.		Value of other apparatus.[2]	Shore property and cash capital.	Total.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Value.	Value.	Value.
Superior:											
1880	161	$26,240	43	$14,950	4,630	$25,280	32	$2,010	$200	$12,700	$81,380
1885	519	100,735	230	67,520	7,557	78,082	43	2,920	1,155	177,521	427,933
1890	328	85,275	140	34,435	5,974	63,476	19	955	2,763	179,778	366,682
1893	447	139,035	276	63,415	8,899	87,680	14	500	1,565	209,512	529,024
1899	315	69,045	162	25,820	7,229	99,283	1	50	1,058	167,023	372,083
1903	378	141,109	218	27,793	10,169	127,238	8	335	815	299,032	596,322
1908	.....	149,000	.....	.....	.....	.....	.....	.....	159,000	83,000	391,000
1917	724	241,425	204	26,262	11,117	144,986	5	325	5,773	383,810	802,581
Michigan:											
1880	836	133,375	476	185,425	24,599	124,740	19	2,040	1,455	104,100	551,135
1885	1,402	368,326	715	253,840	58,516	326,902	87	6,950	13,457	788,356	1,757,831
1890	1,102	266,331	844	244,880	40,896	215,914	30	3,480	13,460	693,159	1,437,224
1893	1,549	357,987	785	181,385	54,232	352,084	28	2,520	27,863	1,092,219	2,063,497
1899	1,178	281,968	805	186,349	49,857	288,395	11	510	29,285	2,087,829	2,915,241
1903	1,363	386,396	980	198,960	48,645	269,754	44	2,384	37,743	2,593,950	3,489,187
1908	.....	692,000	.....	.....	.....	.....	.....	.....	753,000	519,000	1,964,000
1917	1,131	771,723	1,134	242,570	83,807	645,074	61	18,120	69,263	2,108,141	3,854,891
Huron:											
1880	111	20,905	189	49,425	3,360	20,609	28	5,600	3,500	3,709	103,730
1885	561	72,946	586	113,350	3,444	35,333	.....	.....	23,100	140,620	385,349
1890	417	36,898	551	88,515	2,206	21,665	6	600	7,155	254,025	408,858
1893	520	87,645	731	108,508	4,923	53,071	1	75	3,807	236,285	503,700
1899	539	87,585	996	111,839	5,676	54,384	9	673	8,188	203,989	474,953
1903	643	126,418	1,685	176,495	6,129	51,526	18	608	13,977	482,615	851,639
1908	.....	185,000	.....	.....	.....	.....	.....	.....	281,000	267,000	733,000
1917	617	228,980	1,731	207,904	10,610	102,835	77	7,960	19,594	588,192	1,155,465
St. Clair:[3]											
1880	52	8,000	.....	.....	180	1,080	42	6,000	1,500	24,000	40,580
1885	215	7,457	57	12,550	23	160	34	8,825	3,819	218,270	251,081
1890	166	28,775	34	9,450	814	9,418	28	6,240	5,589	150,682	210,145
1893	211	13,728	91	7,400	380	4,260	20	3,025	2,346	206,672	240,076
1899	188	3,770	5	1,050	60	600	13	1,255	915	46,945	54,535
1903	150	3,150	.....	.....	.....	.....	6	890	961	234,884	239,885
1908	.....	10,000	.....	.....	.....	.....	.....	.....	8,000	28,000	46,000
1917	64	2,540	.....	.....	.....	.....	6	1,365	50	12,000	15,955
Erie:											
1880	602	83,880	758	233,600	5,775	22,500	18	2,800	8,645	163,675	515,100
1885	1,536	298,757	1,028	259,785	22,644	75,507	71	8,320	72,205	847,564	1,562,138
1890	1,449	520,033	1,893	548,100	49,320	169,513	44	5,305	70,601	1,502,750	2,816,302
1893	1,146	424,227	1,783	439,060	35,369	164,683	47	4,440	23,339	1,423,017	2,506,842
1899	980	435,566	1,724	329,500	41,678	229,182	104	8,390	19,362	1,614,677	2,720,554
1903	608	490,236	1,469	172,805	35,150	180,581	110	8,040	18,350	1,326,385	2,196,397
1908	.....	603,000	.....	.....	.....	.....	.....	.....	615,000	426,000	1,644,000
1917	1,133	780,683	5,011	681,060	47,578	329,632	285	38,867	45,154	2,341,051	4,216,447
Ontario:[4]											
1880	167	13,100	34	14,000	6,000	20,000	9	1,950	.....	5,000	54,050
1885	467	20,448	350	19,445	4,722	23,952	69	3,177	12,627	56,100	135,749
1890	376	31,162	288	24,577	2,345	18,110	27	656	10,361	38,667	123,533
1893	177	9,619	77	2,310	1,185	8,794	7	175	2,240	32,250	56,131
1899	289	9,482	145	5,850	1,187	18,674	24	420	7,194	38,640	80,350
1903	234	15,457	176	9,945	1,796	13,862	8	205	9,303	52,220	100,992
1908	.....	11,000	.....	.....	.....	.....	.....	.....	16,000	7,900	34,900
1917	270	24,395	353	21,460	165	15,175	12	610	6,349	70,235	138,224
All lakes:											
1880	1,929	285,500	1,500	497,400	44,544	214,200	148	20,400	15,300	313,175	1,345,975
1885	4,700	868,669	2,966	726,490	96,906	539,936	304	30,192	126,363	2,228,431	4,520,081
1890	3,838	968,474	3,750	949,957	101,555	498,096	154	17,236	109,920	2,819,061	5,362,774
1893	4,050	1,032,241	3,743	802,078	104,988	670,572	117	10,735	61,160	3,199,955	5,899,270
1899	3,489	887,416	3,837	660,408	105,687	690,518	162	11,298	66,002	4,159,103	6,617,716
1903	3,376	1,162,766	4,528	585,998	101,889	642,961	194	12,462	81,149	4,989,086	7,474,422
1908	.....	1,651,000	.....	.....	.....	.....	.....	.....	1,831,000	1,332,000	4,814,000
1917	3,939	2,049,746	8,433	1,179,256	153,277	1,237,702	446	67,247	115,586	5,503,429	10,183,563

[1] In 1908 the outfit of the vessels is included in the value.
[2] Includes all forms of apparatus in 1908.
[3] Includes St. Clair and Detroit Rivers. There was no fishing in Detroit River in 1917.
[4] Inclues St. Lawrence and Niagara Rivers.

COMPARATIVE STATISTICS OF THE FISHERIES OF THE GREAT LAKES FOR VARIOUS YEARS FROM 1880 TO 1917—Continued.

PRODUCTS.[1]

Lake and year.	Whitefish.	Trout.	Ciscoes.	Sturgeon.	All other.	Total.	
Superior:	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Value.*
1880	2,257,000	1,464,750	34,000	.....	60,875	3,816,625	$118,370
1885	4,571,947	3,488,177	324,680	182,760	258,416	8,825,980	291,523
1890	3,213,176	2,613,378	199,121	47,482	42,835	6,115,992	220,968
1893	2,732,270	4,342,122	660,272	62,052	300,211	8,096,927	252,107
1899	693,191	3,118,169	1,125,478	4,415	488,401	5,429,654	150,862
1903	794,022	4,954,830	4,742,805	13,137	2,700,219	13,205,013	343,671
1908	910,100	2,752,200	5,587,600	67,600	878,000	10,195,500	342,000
1917	302,210	2,588,353	12,258,482	.....	398,387	15,547,432	726,674
Michigan:							
1880	12,030,400	2,659,450	3,050,400	3,839,600	1,562,025	23,141,875	668,400
1885	8,682,986	6,431,298	3,312,493	1,406,678	3,684,693	23,518,148	878,788
1890	5,455,079	8,364,167	6,082,082	946,897	5,586,041	26,434,266	830,465
1893	2,330,060	8,216,920	11,580,895	311,780	8,308,100	30,747,755	828,611
1899	1,510,364	5,488,947	21,573,716	108,279	5,818,690	34,499,996	876,743
1903	1,972,594	9,049,299	13,863,617	56,420	8,637,568	33,579,498	1,090,550
1908	2,490,900	7,892,000	21,842,000	70,500	7,521,900	39,817,300	1,554,000
1917	3,047,393	8,650,715	18,259,354	10,805	5,492,361	35,460,628	2,270,859
Huron:							
1880	2,700,778	2,084,500	246,800	204,000	1,969,195	7,205,273	195,277
1885	1,425,380	2,539,780	1,265,650	215,500	6,010,860	11,457,170	276,397
1890	1,004,094	1,505,619	2,514,551	365,718	4,666,399	10,056,381	221,067
1893	1,178,271	3,439,575	2,758,628	79,553	4,608,311	12,064,338	306,381
1899	592,308	1,887,101	3,699,807	30,497	6,208,614	12,418,327	308,078
1903	692,863	2,108,632	4,640,967	34,343	6,978,404	14,455,209	450,318
1908	719,000	1,358,800	4,791,000	9,900	6,053,300	12,932,000	486,000
1917	996,851	2,079,455	5,381,365	4,886	4,900,650	13,363,207	857,478
St. Clair:[2]							
1880	77,922	.....	250,700	998,500	523,805	1,850,927	36,273
1885	41,125	.....	1,208,150	227,780	708,740	2,185,795	40,193
1890	238,764	244,847	490,334	309,003	1,711,623	2,994,571	73,577
1893	50,950	72,000	140,112	54,106	1,497,143	1,814,311	46,030
1899	69,902	69,915	.....	7,600	431,650	579,067	23,864
1903	25,591	.....	.....	8,800	487,550	521,941	21,594
1908	.....	.....	.....	13,000	724,700	737,700	32,000
1917	.....	.....	.....	.....	133,330	133,330	11,852
Erie:							
1880	3,333,800	26,200	11,774,400	1,970,000	11,982,900	29,087,300	474,880
1885	3,531,855	106,900	19,354,900	4,727,950	23,734,912	51,456,517	1,109,096
1890	2,341,451	121,420	38,868,283	2,078,907	21,440,812	64,850,873	1,000,905
1893	1,292,410	203,132	20,931,076	793,800	19,747,907	42,968,325	805,979
1899	2,066,314	32,024	33,427,797	789,402	22,078,327	58,393,864	1,150,895
1903	302,805	15,127	8,788,625	300,103	13,781,896	23,188,556	780,015
1908	1,503,000	6,900	10,599,100	63,900	29,733,600	41,906,500	1,280,000
1917	1,755,947	1,922	17,160,852	28,384	19,763,133	38,710,238	2,327,299
Ontario:[3]							
1880	1,064,000	569,700	611,217	545,283	849,800	3,640,000	159,700
1885	90,711	20,510	403,585	386,974	1,496,686	2,398,466	95,869
1890	148,771	41,010	598,978	541,752	2,115,937	3,446,448	124,786
1893	45,380	6,204	164,998	125,293	586,140	928,015	31,510
1899	161,935	15,432	86,778	189,155	1,953,032	2,406,332	100,997
1903	25,384	4,050	121,315	226,095	867,756	1,244,600	59,353
1908	56,000	14,000	35,000	37,000	679,800	821,800	74,000
1917	88,347	23,694	469,272	51,141	421,934	1,054,388	100,857
All lakes:							
1880	21,463,900	6,804,600	15,967,517	7,557,383	16,948,600	68,742,000	1,652,900
1885	18,344,004	12,586,665	25,869,458	7,147,642	35,894,307	99,842,076	2,691,866
1890	12,401,335	12,890,441	48,753,349	4,289,759	35,563,647	113,898,531	2,471,768
1893	7,629,341	16,279,953	36,235,981	1,426,584	35,047,812	96,619,671	2,270,618
1899	5,094,014	10,611,588	59,913,576	1,129,348	36,978,714	113,727,240	2,611,439
1903	3,813,259	16,131,938	32,157,319	638,898	33,453,393	86,194,817	2,745,501
1908	5,679,000	12,023,900	42,854,700	261,900	45,591,300	106,410,800	3,768,000
1917	6,190,748	13,344,139	53,529,325	95,216	31,109,795	104,269,223	6,295,019

[1] In this table caviar and other secondary products are omitted except in 1893, 1899, and 1903. In 1880, 1885, and 1890 bluefin, longjaw, and menominee in Lake Michigan and menominee in Lake Huron are included with whitefish. In 1893 and 1899 bluefin in Lake Superior, bluefin and menominee in Lake Michigan, and menominee in Lake Huron are included with "all other," and longjaw in Lake Michigan with ciscoes. In 1903, bluefin, menominee, longjaw, and steelhead trout are included with "all other." In 1908 and 1917 ciscoes (herring) include longjaw, bluefin or blackfin, and tullibee.

The statistics for 1908 in these tables are from data published by the Bureau of the Census.

[2] Includes St. Clair and Detroit Rivers. There was no fishing in Detroit River in 1917.

[3] Includes St. Lawrence and Niagara Rivers.

FISHERIES OF LAKE SUPERIOR.

The number of persons engaged in the fisheries of Lake Superior in 1917 was 1,348, of whom 166 were on fishing vessels, 51 on vessels transporting fishery products, 854 in the shore or boat fisheries, and 277 in the wholesale fishery trade and other occupations on shore connected with the fishery industries.

The investment amounted to $841,006. This included 16 steam and gasoline fishing vessels, valued at $73,300, with a net tonnage of 406 tons and outfits valued at $16,630; 11 steam and gasoline transporting vessels, valued at $75,500, with a net tonnage of 262 tons and outfits valued at $21,795; 697 power, sail, and row boats, valued at $92,625; fishing apparatus employed on vessels to a value of $32,955; fishing apparatus employed on boats to a value of $144,391; shore and accessory property valued at $341,310 and cash capital amounting to $42,500.

The principal forms of fishing apparatus were gill nets, pound nets, and trap nets. The number of gill nets used on vessels was 1,806, valued at $31,995; and on boats 9,311, valued at $112,991; a total in both fisheries of 11,117 nets, representing a value of $144,986. The number of pound nets and trap nets in operation was 204, valued at $26,262.

The products of the fisheries of Lake Superior amounted to 15,547,432 pounds, valued at $726,674. Among the species of special importance were the following: Ciscoes, 12,258,482 pounds, valued at $460,249, representing 78.85 per cent of total quantity of fish and 63.34 per cent of total value of fish taken in the lake; lake trout, 2,588,353 pounds, valued at $215,973; suckers, 342,053 pounds, valued at $13,744; and common whitefish, 302,210 pounds, valued at $30,943.

Compared with the other lakes, Lake Superior ranked third in quantity of products and fourth in value of products, number of persons engaged, and amount of invested capital. Compared with 1903 there was an increase of 430, or 46.84 per cent, in the number of persons employed; $244,684, or 41.03 per cent, in the amount of capital invested; and 2,342,419 pounds, or 17.74 per cent, in quantity, and $383,003 or 111.44 per cent, in the value of the products.

FISHERIES, BY STATES AND COUNTIES.

The following tables show by States and counties the number of persons employed, investment, and quantity and value of the products of the fisheries in 1917:

STATISTICS OF THE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES AND COUNTIES.

PERSONS ENGAGED.

State and county.	On vessels fishing.	On vessels transporting.	Inshore fisheries.	Shoresmen.	Total.
Michigan:					
Alger			44	2	46
Baraga			30		30
Chippewa	20		43	15	78
Gogebic			10		10
Houghton			78		78
Keweenaw		3	53		56
Marquette	22		16	15	53
Ontonagon			17		17
Total	42	3	291	32	368
Wisconsin:					
Ashland			6	7	13
Bayfield	74		117	154	345
Douglas			9	3	12
Iron			2		2
Total	74		134	164	372
Minnesota:					
Cook			185		185
Lake		4	168		172
St. Louis	50	44	76	81	251
Total	50	48	429	81	608
Grand total	166	51	854	277	1,348

INVESTMENT.

State and county.	Vessels, fishing.								Vessels, transporting.			
	Steam.				Gasoline.				Steam.			
	Number.	Tonnage.	Value.	Value of outfit.	Number.	Tonnage.	Value.	Value of outfit.	Number.	Tonnage.	Value.	Value of outfit.
Michigan:												
Chippewa	1	48	$5,000	$2,600	1	66	$5,000	$2,600				
Marquette	2	78	6,500	5,200								
Total	3	126	11,500	7,800	1	66	5,000	2,600				
Wisconsin:												
Bayfield	4	96	29,800	1,520	1	12	7,000	225				
Minnesota:												
St. Louis	5	80	11,500	1,760	2	26	8,500	2,725	4	194	$56,000	$17,880
Grand total	12	302	52,800	11,080	4	104	20,500	5,550	4	194	56,000	17,880

STATISTICS OF THE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES AND COUNTIES—Continued.

INVESTMENT—Continued.

State and county.	Vessels transporting—Contd. Gasoline.				Sail and row boats.		Power boats.		Apparatus of capture, vessel fisheries.		
	Number.	Tonnage.	Value.	Value of outfit.	Number.	Value.	Number.	Value.	Gill nets. Number.	Gill nets. Value.	Value of lines.
Michigan:											
Alger					9	$190	18	$8,625			
Baraga					17	290	8	1,850			
Chippewa					16	220	13	5,700	214	$7,470	$560
Gogebic					2	45	4	1,200			
Houghton					15	185	33	11,400			
Keweenaw	1	10	$2,000	$500	12	265	20	6,000			
Marquette					1	15	8	3,820	920	11,800	
Ontonagon					2	20	5	2,200			
Total	1	10	2,000	500	74	1,230	109	40,795	1,134	19,270	560
Wisconsin:											
Ashland					2	35	3	675			
Bayfield					66	1,110	45	21,075	450	7,550	400
Douglas					5	75	2	800			
Iron							2	600			
Total					73	1,220	52	23,150	450	7,550	400
Minnesota:											
Cook					142	4,250	57	5,760			
Lake	1	8	4,000	500	81	2,270	32	6,975			
St. Louis	5	50	13,500	2,915	47	1,250	30	5,725	222	5,175	
Total	6	58	17,500	3,415	270	7,770	119	18,460	222	5,175	
Grand total	7	68	19,500	3,915	417	10,220	280	82,405	1,806	31,995	960

State and county.	Apparatus of capture, shore fisheries. Pound nets and trap nets. Number.	Pound nets and trap nets. Value.	Gill nets. Number.	Gill nets. Value.	Seines. Number.	Seines. Value.	Value of lines.	Shore and accessory property.	Cash capital.	Total investment.
Michigan:										
Alger	34	$4,912	446	$4,205	3	$240	$623	$10,725		$29,520
Baraga	22	2,010	124	875				1,010		6,035
Chippewa	80	7,490	546	5,375			325	45,425	$5,000	92,765
Gogebic			83	539				1,185		2,969
Houghton	2	325	1,000	6,639	2	85	560	20,780		39,974
Keweenaw	8	1,825	840	8,635			30	18,525		37,780
Marquette	1	300	216	2,400			6	12,200		42,241
Ontonagon	4	450	175	1,650			575	2,200		7,095
Total	151	17,312	3,430	30,318	5	325	2,119	112,050	5,000	258,379
Wisconsin:										
Ashland	4	450	65	750			140	7,375	5,000	14,425
Bayfield	44	8,000	845	11,285			1,229	38,275	9,000	136,469
Douglas			44	650				390	500	2,415
Iron			12	175				100		875
Total	48	8,450	966	12,860			1,369	46,140	14,500	154,184
Minnesota:										
Cook			2,387	35,503			100	17,870		63,483
Lake			1,536	21,865			125	11,900		47,635
St. Louis	5	500	992	12,445			1,100	153,350	23,000	317,325
Total	5	500	4,915	69,813			1,325	183,120	23,000	428,443
Grand total	204	26,262	9,311	112,991	5	325	4,813	341,310	42,500	841,006

STATISTICS OF THE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES.

State and county.	Bowfin.		Ciscoes.							
			Fresh.		Frozen.		Salted.		Smoked.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Michigan:										
Alger			4,100	$195			500	$23		
Baraga			95,200	4,030						
Chippewa			185,062	8,425						
Gogebic			17,060	680						
Houghton			179,600	7,966						
Keweenaw	2,675	$170	73,825	3,484						
Marquette			325,109	12,835						
Ontonagon			44,090	1,556						
Total	2,675	170	923,986	39,171			500	23		
Wisconsin:										
Ashland			11,600	695						
Bayfield			1,645,805	30,528			68,000	2,340		
Douglas			69,000	2,065						
Iron			8,000	200						
Total			1,734,405	33,488			68,000	2,340		
Minnesota:										
Cook			1,375,239	43,658	1,651,178	$75,405	1,593,925	67,948		
Lake			559,465	19,208	1,100,786	50,270	995,302	43,242		
St. Louis			1,099,403	33,523	550,393	25,135	600,500	26,406	5,400	$432
Total			3,034,107	96,389	3,302,357	150,810	3,189,727	137,596	5,400	432
Grand total	2,675	170	5,692,498	169,048	3,302,357	150,810	3,258,227	139,959	5,400	432

State and county.	Pike.		Pike perch (wall-eyed or yellow pike).		Suckers.			
					Fresh.		Salted.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Michigan:								
Alger			243	$40	23,165	$980		
Baraga			60	6	3,200	133		
Chippewa	800	$80	3,470	525	100,713	4,305		
Gogebic			50	5	1,000	25		
Houghton			500	20	1,600	76		
Keweenaw			231	59	5,464	218		
Marquette			325	26	21,271	695		
Ontonagon					18,835	684		
Total	800	80	4,879	681	175,248	7,116		
Wisconsin:								
Ashland	3,300	355	3,300	469	19,000	890		
Bayfield	1,600	120	19,800	2,624	104,900	4,100	15,850	$560
Total	4,900	475	23,100	3,093	123,900	4,990	15,850	560
Minnesota:								
Cook					100	2		
Lake					1,000	55		
St. Louis					25,955	1,021		
Total					27,055	1,078		
Grand total	5,700	555	27,979	3,774	326,203	13,184	15,850	560

STATISTICS OF THE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

State and county.	Lake trout.						Whitefish, common.	
	Fresh.		Frozen.		Salted.			
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Michigan:								
Alger	174,557	$14,399					30,846	$3,280
Baraga	10,500	1,059					2,525	223
Chippewa	422,188	30,075					142,044	14,074
Gogebic	21,750	1,550					12,000	1,000
Houghton	170,325	16,206					19,080	1,711
Keweenaw	232,850	21,011					8,933	979
Marquette	395,499	34,340					11,635	1,455
Ontonagon	109,182	8,734					15,199	1,639
Total	1,536,851	127,374					242,262	24,361
Wisconsin:								
Ashland	8,875	685					1,200	112
Bayfield	573,720	46,459					41,295	4,145
Iron	12,500	1,000					360	40
Total	595,095	48,144					42,855	4,297
Minnesota:								
Cook	83,642	8,710			3,700	$268	1,047	147
Lake	110,646	9,909			1,372	92	3,400	350
St. Louis	210,847	15,460	44,000	$5,800	2,200	216	12,646	1,788
Total	405,135	34,079	44,000	5,800	7,272	576	17,093	2,285
Grand total	2,537,081	209,597	44,000	5,800	7,272	576	302,210	30,943

State and county.	Whitefish, menominee.				Yellow perch.		Total.	
	Fresh.		Salted.					
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Michigan:								
Alger							233,411	$18,917
Baraga							111,485	5,451
Chippewa					3,000	$235	857,277	57,719
Gogebic							51,800	3,260
Houghton	500	$40					371,605	26,019
Keweenaw	430	48					324,408	25,969
Marquette	300	22					754,139	49,373
Ontonagon							187,306	12,613
Total	1,230	110			3,000	235	2,891,431	199,321
Wisconsin:								
Ashland							47,275	3,206
Bayfield	4,050	178			2,000	121	2,477,020	91,175
Douglas							69,000	2,065
Iron							20,860	1,240
Total	4,050	178			2,000	121	2,614,155	97,686
Minnesota:								
Cook	200	20	100	$4			4,709,131	196,162
Lake	2,200	174					2,774,171	123,300
St. Louis	4,400	200	2,800	224			2,558,544	110,205
Total	6,800	394	2,900	228			10,041,846	429,667
Grand total	12,080	682	2,900	228	5,000	356	15,547,432	726,674

FISHERIES, BY APPARATUS.

The catch of the vessel fisheries amounted to 3,259,811 pounds, valued at $123,169, and of the shore or boat fisheries to 12,287,621 pounds, valued at $603,505. In the vessel fisheries the catch of ciscoes, suckers, lake trout, and whitefish with gill nets amounted to 3,164,811 pounds, valued at $116,369, the balance of the catch consisting of lake trout taken with set lines. In the shore fisheries 11,095,696 pounds consisting of bowfin, ciscoes, pike, pike perch, suckers, lake trout, and whitefish, valued at $523,260, were taken with gill nets; 901,873 pounds, including ciscoes, pike, pike perch, suckers, lake trout, whitefish, and yellow perch, valued at $63,610, with pound nets and trap nets; 177,300 pounds of lake trout, valued at $15,708, with lines; and 12,752 pounds of ciscoes, suckers, lake trout, and whitefish, valued at $927, with seines.

The following tables give the products of the vessel and shore fisheries, by States and counties, in 1917:

YIELD OF VESSEL FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Michigan.					
	Chippewa.		Marquette.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:						
Ciscoes	33,995	$1,698	292,609	$11,444	326,604	$13,142
Suckers			8,471	255	8,471	255
Trout, lake	266,625	18,960	318,499	27,006	585,124	45,966
Whitefish—						
Common			9,487	1,187	9,487	1,187
Menominee			300	22	300	22
Total	300,620	20,658	629,366	39,914	929,986	60,572
Set lines: Trout, lake	75,000	4,800			75,000	4,800
Grand total	375,620	25,458	629,366	39,914	1,004,986	65,372

Apparatus and species.	Wisconsin.		Minnesota.		Grand total.	
	Bayfield.		St. Louis.			
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:						
Ciscoes	1,273,105	$21,246	800,000	$23,712	2,399,709	$58,100
Suckers					8,471	255
Trout, lake	13,595	1,359	148,125	9,480	746,844	56,805
Whitefish—						
Common					9,487	1,187
Menominee					300	22
Total	1,286,700	22,605	948,125	33,192	3,164,811	116,369
Set lines: Trout, lake	20,000	2,000			95,000	6,800
Grand total	1,306,700	24,605	948,125	33,192	3,259,811	123,169

YIELD OF SHORE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan.									
	Alger.		Baraga.		Chippewa.		Gogebic.		Houghton.	
Pound nets and trap nets:										
Ciscoes—	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Fresh			82,800	$3,410	5,000	$200			1,000	$36
Salted	500	$23								
Pike					800	80				
Pike perch (wall-eyed or yellow pike)	243	40			3,470	525				
Suckers, fresh	4,805	188	2,300	105	90,713	3,805				
Trout, lake	24,102	1,971	5,625	565	13,063	890			3,750	560
Whitefish, common	25,752	2,727	2,255	198	135,444	13,415				
Yellow perch					3,000	235				
Total	55,402	4,949	92,980	4,278	251,490	19,150			4,750	596
Gill nets:										
Ciscoes, fresh	3,600	170	12,400	620	146,067	6,527	17,000	$680	174,800	7,770
Pike perch (wall-eyed or yellow pike)			60	6			50	5	500	20
Suckers, fresh	16,360	692	900	28	10,000	500	1,000	25	600	26
Trout, lake, fresh	116,012	9,653	4,875	494	35,625	2,875	21,750	1,550	147,825	13,821
Whitefish—										
Common	810	71	270	25	6,600	659	12,000	1,000	18,480	1,646
Menominee, fresh									500	40
Total	136,782	10,586	18,505	1,173	198,292	10,561	51,800	3,260	342,705	23,323
Seines:										
Ciscoes	500	25							3,800	160
Suckers	2,000	100							1,000	50
Trout	568	45								
Whitefish	4,284	482							600	65
Total	7,352	652							5,400	275
Lines: Trout, lake	33,875	2,730			31,875	2,550			18,750	1,825
Grand total	233,411	18,917	111,485	5,451	481,657	32,261	51,800	3,260	371,605	26,019

Apparatus and species.	Michigan—Continued.						Total.	
	Keweenaw.		Marquette.		Ontonagon.			
Pound nets and trap nets:								
Ciscoes—	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Fresh	5,000	$250	500	$21			94,300	$3,917
Salted							500	23
Pike							800	80
Pike perch (wall-eyed or yellow pike)	166	37					3,879	602
Suckers, fresh	3,302	132	1,500	45			102,620	4,275
Trout, lake	65,725	7,811	3,125	310	7,500	$600	122,890	12,707
Whitefish—								
Common	2,933	394	600	75	3,600	420	170,584	17,229
Menominee	355	38					355	38
Yellow perch							3,000	235
Total	77,481	8,662	5,725	451	11,100	1,020	498,928	39,106

YIELD OF SHORE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.							
	Keweenaw.		Marquette.		Ontonagon.		Total.	
Gill nets:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfin	2,675	$170					2,675	$170
Ciscoes, fresh	68,825	3,234	32,000	$1,370	44,090	$1,556	498,782	21,927
Pike perch (wall-eyed or yellow pike)	65	22	325	26			1,000	79
Suckers, fresh	2,162	86	11,300	395	18,835	684	61,157	2,436
Trout, lake, fresh	164,625	12,970	72,125	6,860	91,682	7,334	654,519	55,557
Whitefish—								
Common	6,000	585	1,548	193	11,599	1,219	57,307	5,398
Menominee, fresh	75	10					575	50
Total	244,427	17,077	117,298	8,844	166,206	10,793	1,276,015	85,617
Seines:								
Ciscoes							4,300	185
Suckers							3,000	150
Trout							568	45
Whitefish							4,884	547
Total							12,752	927
Lines: Trout, lake	2,500	230	1,750	164	10,000	800	98,750	8,299
Grand total	324,408	25,969	124,773	9,459	187,306	12,613	1,886,445	133,949

Apparatus and species.	Wisconsin.									
	Ashland.		Bayfield.		Douglas.		Iron.		Total.	
Pound nets and trap nets:										
Ciscoes—	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Fresh	600	$20	62,500	$1,657					63,100	$1,677
Salted			23,000	690					23,000	690
Pike	800	55	1,600	120					2,400	175
Pike perch (wall-eyed or yellow pike)	2,800	399	16,300	2,142					19,100	2,541
Suckers—										
Fresh	12,000	515	95,500	3,735					107,500	4,250
Salted			15,000	525					15,000	525
Trout, lake	750	60	120,750	9,695					121,500	9,755
Whitefish—										
Common	600	56	26,895	2,745					27,495	2,801
Menominee			150	7					150	7
Yellow perch			1,700	103					1,700	103
Total	17,550	1,105	363,395	21,419					380,945	22,524
Gill nets:										
Ciscoes—										
Fresh	11,000	675	310,200	7,625	69,000	$2,065	8,000	$200	398,200	10,565
Salted			45,000	1,650					45,000	1,650
Pike	2,500	300							2,500	300
Pike perch (wall-eyed or yellow pike)	500	70	3,500	482					4,000	552
Suckers—										
Fresh	7,000	375	9,400	365					16,400	740
Salted			850	35					850	35
Trout, lake, fresh	6,250	475	362,500	27,870			12,500	1,000	381,250	29,345
Whitefish—										
Common	600	56	14,400	1,400			360	40	15,360	1,496
Menominee, fresh			3,900	171					3,900	171
Yellow perch			300	18					300	18
Total	27,850	1,951	750,050	39,616	69,000	2,065	20,860	1,240	867,760	44,872
Lines: Trout, lake	1,875	150	56,875	5,535					58,750	5,685
Grand total	47,275	3,206	1,170,320	66,570	69,000	2,065	20,860	1,240	1,307,455	73,081

YIELD OF SHORE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Minnesota.								Grand total.	
	Cook.		Lake.		St. Louis.		Total.			
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Pound nets and trap nets:										
Ciscoes—										
Fresh									157,400	$5,594
Salted									23,500	713
Pike									3,200	255
Pike perch (wall-eyed or yellow pike)									22,979	3,143
Suckers—										
Fresh					12,000	$480	12,000	$480	222,120	9,005
Salted									15,000	525
Trout, lake									244,390	22,462
Whitefish—										
Common					10,000	1,500	10,000	1,500	208,079	21,530
Menominee									505	45
Yellow perch									4,700	338
Total					22,000	1,980	22,000	1,980	901,873	63,610
Gill nets:										
Bowfin									2,675	170
Ciscoes—										
Fresh	1,375,239	$43,658	559,465	$19,208	299,403	9,811	2,234,107	72,677	3,131,089	105,169
Frozen	1,651,178	75,405	1,100,786	50,270	550,393	25,135	3,302,357	150,810	3,302,357	150,810
Salted	1,593,925	67,948	995,302	43,242	600,500	26,406	3,189,727	137,596	3,134,727	139,246
Smoked					5,400	432	5,400	432	5,400	432
Pike									2,500	300
Pike perch (wall-eyed or yellow pike)									5,000	631
Suckers—										
Fresh	100	2	1,000	55	13,955	541	15,055	598	92,612	3,774
Salted									850	35
Trout, lake—										
Fresh	82,842	8,646	106,646	9,549	47,722	4,680	237,210	22,875	1,272,979	107,777
Frozen					44,000	5,800	44,000	5,800	44,000	5,800
Salted	3,700	268	1,372	92	2,200	216	7,272	576	7,272	576
Whitefish—										
Common	1,047	147	3,400	350	2,646	288	7,093	785	79,760	7,679
Menominee, fresh	200	20	2,200	174	4,400	200	6,800	394	11,275	615
Menominee, salted	100	4			2,800	224	2,900	228	2,900	228
Yellow perch									300	18
Total	4,708,331	196,098	2,770,171	122,940	1,573,419	73,733	9,051,921	392,771	11,095,696	523,260
Seines:										
Ciscoes									4,300	185
Suckers									3,000	150
Trout									568	45
Whitefish									4,884	547
Total									12,752	927
Lines: Trout, lake	800	64	4,000	360	15,000	1,300	19,800	1,724	177,300	15,708
Grand total	4,709,131	196,162	2,774,171	123,300	1,610,419	77,013	9,093,721	396,475	12,287,621	603,505

WHOLESALE FISHERY TRADE.

The wholesale fishery trade of Lake Superior in 1917 was conducted by 15 establishments, of which 8 were at Duluth, 2 at Bayfield, and 1 at each of the following places: Ashland, Bark Point, Port Wing, Superior, and Sault Ste. Marie. The total number of persons employed in these establishments was 249, to whom $65,353 were paid in wages during the year; the investment in shore and accessory property amounted to $210,400 and the cash capital utilized was $42,500. Compared with 1903, there was a decrease of 1 in the num-

ber of establishments and of $100,200 in cash capital, and an increase of 150 employees, of $6,773 in the amount of wages paid, and of $103,986 in the value of the property.

The following table shows by localities the extent of the wholesale fishery trade of Lake Superior in 1917:

WHOLESALE FISHERY TRADE OF LAKE SUPERIOR IN 1917.

Cities and towns.	State.	Number of firms.	Persons engaged.	Wages paid.	Shore and accessory property.	Cash capital.
Duluth	Minnesota	8	77	$35,742	$146,350	$23,000
Ashland, Bayfield, and Bark Point	Wisconsin	4	140	19,125	21,325	12,500
Port Wing, Superior, and Sault Ste. Marie.	Wisconsin and Michigan.	3	32	10,486	42,725	7,000
Total		15	249	65,353	210,400	42,500

FISHERIES OF LAKE MICHIGAN.

In 1917 Lake Michigan ranked first among the Great Lakes in the number of persons employed in the fisheries and second in the amount of invested capital and the quantity and value of the products. The total number of persons employed in the fisheries of Lake Michigan was 3,313, of whom 1,096 were on fishing vessels, 81 on vessels transporting fishery products, 1,285 in the shore fisheries, and 851 shoresmen in the wholesale fishery trade, etc. Of the total number of persons engaged 1,537 were credited to Wisconsin, 1,145 to Michigan, 564 to Illinois, and 67 to Indiana.

The total investment in the fisheries of the lake amounted to $4,038,927. The number of vessels fishing was 332, with a net tonnage of 3,913 tons, valued at $631,960, and having outfits to the value of $179,521; and of transporting vessels, 60 with net tonnage of 495 tons, valued at $38,225, with outfits valued at $4,515. The number of boats was 739, worth $101,538. The fishing apparatus used on vessels was valued at $561,349, and on boats at $413,678. Shore and accessory property amounted to $1,758,341 and cash capital to $349,800. The investment was divided among the different States as follows: Wisconsin, $1,514,295, or 37.49 per cent; Illinois, $1,265,664, or 31.34 per cent; Michigan, $1,179,143, or 29.19 per cent; and Indiana, $79,825, or 1.98 per cent.

Gill nets were the most important apparatus of capture, 57,453, representing a value of $535,616, being employed in the vessel fisheries, and 26,354, valued at $109,458, in the boat fisheries, a total in both fisheries of 83,807, amounting in value to $645,074. Lines valued at $27,868 were employed in both the vessel and shore fisheries. Other apparatus used in the shore fisheries included 1,134 pound nets and trap nets, valued at $242,570; 3,343 fyke nets, valued at $39,795; 61 seines, valued at $18,120; and 6,400 crawfish pots, valued at $1,600.

The fishery products of Lake Michigan amounted to 35,460,628 pounds, valued at $2,270,859. This total was divided among the different States as follows: Wisconsin, 21,453,679 pounds, valued at $1,225,084; Michigan, 11,634,480 pounds, valued at $883,301; Illinois, 1,356,294 pounds, valued at $87,375; and Indiana, 1,016,175 pounds, valued at $75,099. The more important species taken in

this lake were ciscoes, 18,259,354 pounds, valued at $845,982; lake trout, 8,650,715 pounds, valued at $853,138; common whitefish, 3,047,393 pounds, valued at $323,363; yellow perch, 2,362,796 pounds, valued at $116,500; and suckers, 2,118,563 pounds, valued at $75,484.

As compared with 1903 there was an increase of 72, or 2.22 per cent, in the number of persons employed; $549,740, or 15.76 per cent, in the investment in the fisheries; and 1,881,130 pounds, or 5.60 per cent, in quantity; and $1,180,309, or 108.23 per cent, in the value of the products.

FISHERIES, BY STATES AND COUNTIES.

The following tables show by States and counties the extent of the fisheries of Lake Michigan in 1917:

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES.

PERSONS EMPLOYED.

State and county.	On vessels fishing.	On vessels transporting.	In shore or boat fisheries.	Shoresmen.	Total.
Michigan:					
Allegan	.....	.....	9	.....	9
Antrim	.....	.....	10	.....	10
Benzie	49	2	6	19	76
Berrien	38	.....	33	2	73
Charlevoix	96	2	30	21	149
Delta	11	.....	157	6	174
Emmet	.....	.....	28	.....	28
Grand Traverse	10	2	23	.....	35
Leelanau	50	.....	34	7	91
Mackinac	16	2	75	.....	93
Manistee	16	.....	11	2	29
Mason	26	2	15	.....	43
Menominee	.....	22	61	36	119
Muskegon	8	1	30	.....	39
Oceana	6	.....	.....	.....	6
Ottawa	50	.....	18	11	79
Schoolcraft	47	.....	20	4	71
Van Buren	13	.....	8	.....	21
Total	436	33	568	108	1,145
Indiana:					
Lake	.....	.....	10	.....	10
Laporte	21	.....	21	3	45
Porter	.....	.....	12	.....	12
Total	21	.....	43	3	67
Illinois:					
Cook	31	.....	15	482	528
Lake	24	.....	12	.....	36
Total	55	.....	27	482	564
Wisconsin:					
Brown	53	22	200	107	382
Door	143	5	174	10	332
Kenosha	9	.....	1	4	14
Kewaunee	33	.....	6	.....	39
Manitowoc	42	.....	22	20	84
Marinette	75	10	81	32	198
Milwaukee	77	.....	24	26	127
Oconto	52	9	95	.....	156
Ozaukee	26	2	11	18	57
Racine	23	.....	2	10	35
Sheboygan	51	.....	31	31	113
Total	584	48	647	258	1,537
Grand total	1,096	81	1,285	851	3,313

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

INVESTMENT.

State and county.	Vessels, fishing.								Vessels transporting.			
	Steam.				Gasoline.				Gasoline.			
	No.	Tonnage.	Value.	Outfit.	No.	Tonnage.	Value.	Outfit.	No.	Tonnage.	Value.	Outfit.
Michigan:												
Benzie	7	113	$20,150	$11,500	5	46	$4,200	$2,715	1	6	$450	$50
Berrien	5	153	32,700	4,890	2	15	1,500	125				
Charlevoix	8	114	18,700	9,210	18	141	16,000	6,650	1	7	300	225
Delta	2	26	3,000	1,600								
Grand Traverse					4	43	3,800	1,200	1	9	1,000	20
Leelanau	5	57	9,600	5,925	12	96	11,250	3,350				
Mackinac					7	43	3,350	990	2	16	900	240
Manistee					7	49	7,000	3,435				
Mason	2	21	4,000	415	9	79	6,550	2,115	2	16	850	95
Menominee									9	124	10,700	1,285
Muskegon					4	27	4,500	800	1	8	600	50
Oceana					3	23	2,950	1,000				
Ottawa	8	143	31,100	9,875								
Schoolcraft	4	100	10,500	6,500	6	53	4,250	1,675				
Van Buren	2	31	4,700	2,125	1	6	600	150				
Total	43	758	134,450	52,040	78	616	65,950	24,205	17	186	14,800	1,965
Indiana: Laporte	2	51	11,000	3,610	1	8	1,200	850				
Illinois:												
Cook					8	73	17,200	4,095				
Lake					5	55	13,500	3,100				
Total					13	128	30,700	7,195				
Wisconsin:												
Brown	1	9	1,000	200	23	192	14,800	1,300	22	140	10,350	875
Door	5	92	17,500	1,950	47	423	43,650	3,881	4	34	2,500	130
Kenosha	1	32	5,000	1,650	1	14	1,400	800				
Kewanee	2	27	4,000	1,500	12	112	10,400	1,880				
Manitowoc	2	51	5,500	2,785	11	149	15,900	6,550				
Marinette	4	46	9,700	2,800	22	173	21,700	3,500	7	74	4,900	950
Milwaukee	13	254	83,000	20,000	4	33	3,800	2,450				
Oconto					26	201	15,810	1,325	9	51	5,375	395
Ozaukee	4	100	30,500	9,500	1	15	2,000	200	1	10	300	200
Racine	5	118	31,000	7,250								
Sheboygan	10	257	65,000	19,600	1	49	7,000	2,500				
Total	47	986	252,200	67,235	148	1,361	136,460	24,386	43	309	23,425	2,550
Grand total	92	1,795	397,650	122,885	240	2,118	234,310	56,636	60	495	38,225	4,515

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

INVESTMENT—Continued.

State and county.	Sail and row boats.		Power boats.		Apparatus of capture, vessel fisheries.			Apparatus of capture, shore fisheries.			
					Gill nets.		Value of lines.	Pound nets and trap nets.		Gill nets.	
	No.	Value	No.	Value.	No.	Value.		No.	Value.	No.	Value.
Michigan:											
Allegan	5	$115	4	$750				7	$1,475	146	$1,447
Antrim	7	100	3	350				6	725	48	370
Benzie	2	50	3	700	1,875	$29,074		6	460	55	545
Berrien	15	335	9	4,000	3,757	35,552		11	3,550	671	6,640
Charlevoix	6	85	18	6,625	6,702	61,048	$1,500	31	6,005	633	6,309
Delta	66	1,053	35	10,115	880	5,300		136	16,090	2,938	19,810
Emmet	14	300	5	1,625				12	5,100	237	2,445
Grand Traverse	17	340	8	2,150	199	1,841		106	7,995	139	1,450
Leelanau	18	390	9	1,825	2,588	20,290		48	5,865	174	1,070
Mackinac	10	145	27	6,580	242	1,786	4	152	20,725	375	3,320
Manistee	9	165	5	550	890	8,600	1,535	13	1,180	156	766
Mason	13	345			1,317	14,496	700	79	6,400	14	150
Menominee	10	320	26	7,850				80	24,675	161	954
Muskegon	24	519	2	750	269	2,748	600	39	5,800	133	1,156
Oceana					350	3,500	750				
Ottawa	16	361	3	900	7,275	54,200	1,650	19	2,425	112	1,120
Schoolcraft	5	115	8	2,975	1,677	15,045		42	5,950	253	2,105
Van Buren	4	90	3	550	1,812	14,248				171	1,710
Total	241	4,828	168	48,295	29,833	267,728	6,739	787	114,420	6,416	51,367
Indiana:											
Lake	4	125	6	1,200				5	1,100	210	4,460
Laporte	10	255	6	1,400	1,695	35,940	200	7	3,800	102	1,530
Porter	9	230	2	450				6	2,700	57	1,140
Total	23	610	14	3,050	1,695	35,940	200	18	7,600	369	7,130
Illinois:											
Cook	7	125	1	1,500	705	7,125				80	845
Lake	2	70	3	1,300	1,650	13,100		8	3,000	110	800
Total	9	195	4	2,800	2,355	20,225		8	3,000	190	1,645
Wisconsin:											
Brown	62	1,810	23	6,500	1,506	7,686		24	3,600	1,785	8,925
Door	14	545	43	11,750	8,730	76,330	7,324	97	23,450	14,315	21,065
Kenosha	1	20			597	4,500				4	35
Kewaunee	1	30	3	700	1,080	9,530	6,650	3	900		
Manitowoc	6	120	8	2,875	1,507	16,248		29	25,500	31	165
Marinette	9	250	13	3,900	5,365	46,675		43	15,800	2,070	8,560
Milwaukee	13	230	5	2,650	1,868	23,060		2	400	165	1,470
Oconto	34	995	18	5,400	1,373	9,529		93	17,900	954	3,586
Ozaukee			3	1,375	1,051	8,600	425	6	5,000	10	85
Racine	1	20	1	150	58	865	1,000			20	250
Sheboygan	14	290	8	2,150	435	8,700	3,395	24	25,000	25	175
Total	155	4,310	125	37,450	23,570	211,723	18,794	321	117,550	19,379	49,316
Grand total	428	9,943	311	91,595	57,453	535,616	25,733	1,134	242,570	26,354	109,458

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

INVESTMENT—Continued.

State and county.	Apparatus of capture, shore fisheries—Continued.							Shore and accessory property.	Cash capital.	Total investment.
	Fyke nets.		Seines.		Value of lines.	Crawfish pots.				
	No.	Value.	No.	Value.		No.	Value.			
Michigan:										
Allegan								$1,275		$5,062
Antrim					$70			310		1,925
Benzie								15,145		85,039
Berrien			1	$150	25			8,705	$2,000	100,172
Charlevoix								34,540	7,000	174,197
Delta	27	$5,395						14,040	2,500	78,903
Emmet					250			1,675		11,395
Grand Traverse					120			4,675		24,591
Leelanau					40			21,835		81,440
Mackinac								4,415		42,455
Manistee								4,600		27,831
Mason					70			2,975		39,161
Menominee	30	1,000						97,961	80,000	224,745
Muskegon								3,420		20,943
Oceana										8,200
Ottawa								34,865	32,000	168,496
Schoolcraft								7,000	3,500	59,615
Van Buren								800		24,973
Total	57	6,395	1	150	575			258,236	127,000	1,179,143
Indiana:										
Lake					60			1,250		8,195
Laporte								5,075	1,000	65,860
Porter								1,250		5,770
Total					60			7,575	1,000	79,825
Illinois:										
Cook					35			1,085,769	112,500	1,229,194
Lake								1,600		36,470
Total					35			1,087,369	112,500	1,265,664
Wisconsin:										
Brown	2,771	27,710	48	15,500		6,400	$1,600	160,169	79,500	341,525
Door			5	1,250	800			20,385	6,500	239,010
Kenosha								6,000		19,405
Kewaunee					130			650		36,370
Manitowoc			2	200				27,355	1,800	105,028
Marinette	27	810						29,097	9,000	157,642
Milwaukee					20			87,500	10,000	234,580
Oconto	488	4,880	3	900				7,125		78,220
Ozaukee					500			23,500	1,000	83,185
Racine					15			7,400		47,950
Sheboygan			2	120				35,950	1,500	171,380
Total	3,286	33,400	60	17,970	1,465	6,400	1,600	405,161	109,300	1,514,295
Grand total	3,343	39,795	61	18,120	2,135	6,400	1,600	1,758,341	349,800	4,038,927

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES.

State and county.	Burbot.		Carp, Asiatic.		Catfish and bullheads.		Ciscoes. Fresh.		Ciscoes. Salted.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Michigan:										
Allegan			300	$12			7,633	$466	2,437	$142
Antrim							14,520	832		
Benzie	4,870	$89					176,920	10,268		
Berrien	2,870	66	400	16			475,171	30,384		
Charlevoix	8,739	195					244,476	12,312		
Delta	565	7					236,098	8,529	114,329	4,510
Emmet							3,168	170		
Grand Traverse	1,100	20					31,760	1,934		
Leelanau							262,617	13,532		
Mackinac							10,575	370		
Manistee							85,097	4,374		
Mason	6,850	204	130	5			187,531	12,239		
Menominee	300	3					217,919	8,280	402,960	18,922
Muskegon	200	6	410	16			138,707	8,904		
Oceana							24,000	1,440		
Ottawa	1,572	32	600	23			935,501	53,316		
Schoolcraft							26,226	1,071		
Van Buren							81,216	5,389		
Total	27,066	622	1,840	72			3,159,135	173,810	519,726	23,574
Indiana:										
Lake	625	13	400	16			86,500	5,085		
Laporte	2,164	107	650	26	120	$17	641,730	43,353		
Porter	350	10	100	4			85,600	4,275		
Total	3,139	130	1,150	46	120	17	813,830	52,713		
Illinois:										
Cook	58	1					580,098	31,825		
Lake							435,720	22,315		
Total	58	1					1,015,818	54,140		
Wisconsin:										
Brown	86,886	435	213,453	6,404	148,577	5,979	1,078,433	35,049	58,360	2,762
Door	46,194	231					1,595,733	51,861	1,788,550	86,388
Kenosha							292,874	16,084		
Kewaunee							423,016	13,748		
Manitowoc			2,760	141			755,762	42,855		
Marinette	1,842	9			3,969	159	2,396,248	78,575	317,135	15,318
Milwaukee			200	12			1,069,310	61,420		
Oconto	1,600	8	26,500	795	11,800	472	1,445,931	46,992	233,995	11,302
Ozaukee							342,140	21,793		
Racine							20,400	1,150		
Sheboygan			600	30			932,958	56,448		
Total	136,522	683	243,513	7,382	164,346	6,610	10,352,805	425,975	2,398,040	115,770
Grand total	166,785	1,436	246,503	7,500	164,466	6,627	15,341,588	706,638	2,917,766	139,344

State and county.	Pike.		Pike perch (wall-eyed or yellow pike).		Rock bass.		Sheepshead or drum.		Sturgeon.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Michigan:										
Allegan			4,758	$655			1,600	$64	895	$205
Berrien			1,100	126			300	12	3,520	943
Charlevoix									40	5
Delta	6,230	$623	56,234	6,425					763	94
Emmet			75	9						
Grand Traverse										
Mackinac									35	3
Manistee	519	27	5,585	818					890	124
Mason	900	90	11,775	2,553					943	144
Menominee	71	6	1,065	128			200	8	68	16
Muskegon	300	30	5,378	804					361	72
Ottawa			2,523	365			7,000	280	434	104
Schoolcraft			523	104			1,315	48	360	108
Van Buren									50	6
Total	8,020	776	89,016	11,987			10,415	412	8,409	1,837
									50	13

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

State and county.	Pike.		Pike perch (wall-eyed or yellow pike).		Rock bass.		Sheepshead or drum.		Sturgeon.	
Indiana:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Lake									1,514	$406
Laporte	175	$26	1,400	$240			750	$30	482	162
Porter	50	4							400	112
Total	225	30	1,400	240			750	30	2,396	680
Wisconsin:										
Brown	3,518	281	18,289	2,743			16,929	338		
Door	8,972	717	662	99	1,714	$137	318	16		
Marinette	6,562	505	1,618	221						
Oconto	13,100	1,048	21,039	3,155						
Sheboygan	200	18								
Total	32,352	2,569	41,608	6,218	1,714	137	17,247	354		
Grand total	40,597	3,375	132,024	18,445	1,714	137	28,412	796	10,805	2,517

State and county.	Sturgeon caviar.		Suckers.				Trout, lake.			
			Fresh.		Salted.		Fresh.		Salted.	
Michigan:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Allegan	16	$32	5,832	$249			1,016	$139		
Antrim			3,250	208			4,440	470		
Benzie			22,261	892			326,945	29,396		
Berrien	190	570	10,442	711			250,139	26,658		
Charlevoix			8,963	284	100	$4	1,063,698	68,803		
Delta			577,334	24,597			138,664	11,539		
Emmet			3,600	149			96,398	7,456		
Grand Traverse			187,351	6,496			34,049	2,867		
Leelanau			47,639	1,921			434,587	32,213		
Mackinac			33,926	1,697			85,447	7,261	200	$22
Manistee			29,381	1,178			168,168	16,903		
Mason			62,132	3,531			149,563	16,617		
Menominee			3,754	150	345	16	10,753	968	345	16
Muskegon	50	125	14,408	816			20,903	2,400		
Oceana							46,450	7,013		
Ottawa	25	62	1,302	51			240,753	29,447		
Schoolcraft			23,785	1,415	2,100	74	378,964	30,805		
Van Buren			1,442	100			63,271	7,481		
Total	281	789	1,036,802	44,445	2,545	94	3,514,258	298,436	545	38
Indiana:										
Lake	55	100	740	30			19,100	2,350		
Laporte	10	15	2,000	80			103,010	10,746		
Porter			450	22			1,300	130		
Total	65	115	3,190	132			123,410	13,226		
Illinois:										
Cook							515	37		
Lake			5,265	200			168,125	18,075		
Total			5,265	200			168,640	18,112		
Wisconsin:										
Brown			537,770	12,559	2,600	122				
Door			64,635	2,323	8,160	371	802,519	81,736	1,830	186
Kenosha							180,346	19,616		
Kewaunee			3,862	93			461,813	47,952	215	17
Manitowoc			18,763	799			452,220	41,546		
Marinette			212,899	8,938			134,690	12,465		
Milwaukee			2,105	88			1,075,831	110,677		
Oconto			209,912	4,897	805	38	15,144	1,575	230	18
Ozaukee			2,800	131			302,128	30,700		
Racine							527,125	72,800		
Sheboygan			6,450	254			889,771	104,038		
Total			1,059,196	30,082	11,565	531	4,841,587	523,105	2,275	221
Grand total	346	904	2,104,453	74,859	14,110	625	8,647,895	852,879	2,820	259

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

State and county.	Trout, steelhead.		White bass.		Whitefish, common.				Whitefish, menominee.	
					Fresh.		Salted.		Fresh.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Michigan										
Allegan			250	$15	11,247	$1,530				
Antrim					11,156	1,186			240	$18
Benzie					693,388	73,988			30	1
Berrien					27,636	3,781				
Charlevoix					492,552	49,615	1,200	$96	19,568	1,190
Delta					152,428	14,566			1,772	95
Emmet					42,587	4,786			3,000	210
Grand Traverse					41,268	5,812				
Leelanau					423,877	37,345			1,422	91
Mackinac					529,510	53,476	745	105	23,233	1,265
Manistee					29,352	3,558				
Mason					16,317	2,151				
Menominee					4,254	468			49	4
Muskegon	700	$117	350	35	7,615	1,114				
Oceana					1,518	258				
Ottawa					6,862	832				
Schoolcraft					323,941	40,825			27,373	1,002
Van Buren					24,360	3,303				
Total	700	117	600	50	2,839,868	298,594	1,945	201	76,687	3,876
Indiana:										
Lake	19,200	2,880			300	42				
Laporte	900	180			3,550	637				
Porter	1,150	172			300	43				
Total	21,250	3,232			4,150	722				
Illinois, Lake					33,600	4,750				
Wisconsin:										
Brown			675	27	600	67				
Door					48,002	4,950			23,145	926
Kewaunee					1,000	112				
Manitowoc					42,582	4,451				
Marinette					26,672	2,805				
Milwaukee					4,680	571				
Oconto					14,344	1,607				
Ozaukee					5,040	545				
Sheboygan					24,910	3,988			500	27
Total			675	27	167,830	19,096			23,645	953
Grand total	21,950	3,349	1,275	77	3,045,448	323,162	1,945	201	100,332	4,829

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

State and county.	Whitefish, menominee—Continued.		Yellow perch.				Crawfish.		Total.	
	Salted.		Fresh.		Salted.					
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Michigan:										
Allegan			1,148	$91					37.132	$3,600
Antrim									33,606	2,714
Benzie			1,300	112					1,225,714	114,746
Berrien			11,964	1,340					783,782	64,607
Charlevoix	7,400	$553	52,088	3,170					1,898,824	136,227
Delta			176,204	12,035					1,460,621	83,020
Emmet			5,800	460					154,628	13,240
Grand Traverse			4,157	362					299,720	17,494
Leelanau	698	47	3,391	287					1,174,231	85,436
Mackinac	7,500	557	380	19					692,406	64,896
Manistee			9,815	295					328,860	27,297
Mason			5,013	511					440,479	37,925
Menominee			4,561	180	1,725	$81			648,462	29,294
Muskegon			8,137	654					204,592	15,405
Oceana									71,968	8,711
Ottawa			21,818	1,703					1,212,631	85,987
Schoolcraft	9,700	776							792,662	76,078
Van Buren			3,823	338					174,162	16,624
Total	25,298	1,933	309,599	21,557	1,725	81			11,634,480	883,301
Indiana:										
Lake			18,300	1,785					146,734	12,707
Laporte			18,600	1,641					775,541	57,260
Porter			4,200	360					93,900	5,132
Total			41,100	3,786					1,016,175	75,099
Illinois:										
Cook			80,613	7,157					661,284	39,020
Lake			52,300	3,015					695,010	48,355
Total			132,913	10,172					1,356,294	87,375
Wisconsin:										
Brown			1,122,303	44,892			80,495	$4,427	3,368,888	116,085
Door	805	40	135,232	5,410					4,526,471	235,391
Kenosha			6,360	474					479,580	36,174
Kewaunee			17,832	713					907,738	62,635
Manitowoc			15,968	1,380					1,288,055	91,172
Marinette			110,421	4,417					3,212,056	123,412
Milwaukee			117,360	8,974					2,269,486	181,742
Oconto			338,733	13,549					2,333,133	85,456
Ozaukee			2,500	195					654,608	53,364
Racine			5,950	445					553,475	74,395
Sheboygan			4,800	455					1,860,189	165,258
Total	805	40	1,877,459	80,904			80,495	4,427	21,453,679	1,225,084
Grand total	26,103	1,973	2,361,071	116,419	1,725	81	80,495	4,427	35,460,628	2,270,859

FISHERIES, BY APPARATUS.

Of the total product, 20,786,387 pounds, valued at $1,493,914, was credited to the vessel fisheries, and 14,674,241 pounds, valued at $776,945, to the shore or boat fisheries. In the vessel fisheries, gill nets and lines were employed and in the shore fisheries pound nets and trap nets, gill nets, fyke nets, seines, lines, and crawfish pots. The catch with these forms of apparatus was as follows: Gill nets, 12,346,654 pounds, valued at $1,458,809; pound nets and trap nets, 1,735,445 pounds, valued at $491,647; lines, 2,007,204 pounds, valued at $231,563; fyke nets, 1,906,613 pounds, valued at $72,875; seines, 384,217 pounds, valued at $11,538; crawfish pots, 80,495 pounds, valued at $4,427.

The products of the vessel and shore fisheries by States, counties, apparatus, and species in 1917 are shown in the following tables:

YIELD OF VESSEL FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Indiana.		Illinois.					
	Laporte.		Cook.		Lake.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:								
Burbot	1,764	$75	58	$1			58	$1
Ciscoes, fresh	573,330	39,973	525,258	28,835	309,000	$15,935	834,258	44,770
Trout, lake	95,310	9,951	515	37	151,875	16,325	152,390	16,362
Whitefish, common, fresh	100	15						
Yellow perch			44,613	3,807	34,200	1,875	78,813	5,682
Total	670,504	50,014	570,444	32,680	495,075	34,135	1,065,519	66,815
Lines: Trout, lake, fresh	7,000	700						
Grand total	677,504	50,714	570,444	32,680	495,075	34,135	1,065,519	66,815

Apparatus and species.	Michigan.							
	Benzie.		Berrien.		Charlevoix.		Delta.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:								
Burbot	4,870	$89	2,770	$63	7,742	$172		
Ciscoes—								
Fresh	176,545	10,253	389,976	25,326	241,184	12,153	3,552	$125
Salted							34,840	1,398
Suckers	11,011	412	1,125	90	7,896	244	2,097	79
Trout, lake	295,695	26,896	233,164	24,163	876,740	54,663	96,499	7,720
Whitefish—								
Common, fresh	678,988	72,668	10,068	1,437	409,354	40,908	26,063	3,193
Common, salted					1,200	96		
Menominee, fresh	30	1			6,305	381		
Menominee, salted					100	7		
Yellow perch			1,725	202	14,908	892		
Total	1,167,139	110,319	638,828	51,281	1,565,429	109,516	163,051	12,515
Lines: Trout, lake, fresh					80,581	6,347		
Grand total	1,167,139	110,319	638,828	51,281	1,646,010	115,863	163,051	12,515

Apparatus and species.	Michigan—Continued.							
	Grand Traverse.		Leelanau.		Mackinac.		Manistee.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:								
Burbot	1,100	$20					75,405	$3,889
Ciscoes, fresh	7,320	354	230,659	$11,985			11,606	410
Suckers			250	10	13,309	$767		
Trout, lake	12,000	884	378,500	27,722	32,969	3,044	139,542	14,051
Whitefish—								
Common, fresh	1,560	241	320,625	28,748	69,048	8,203	18,142	2,266
Common, salted					155	22		
Menominee, fresh					11,918	535		
Menominee, salted					5,900	442		
Yellow perch	987	86	698	47				
			36	3				
Total	22,967	1,585	930,768	68,515	133,299	13,013	244,695	20,616
Lines: Trout, lake, fresh					1,025	82	25,875	2,580
Grand total	22,967	1,585	930,768	68,515	134,324	13,095	270,570	23,196

YIELD OF VESSEL FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.							
	Mason.		Muskegon.		Oceana.		Ottawa.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:								
Burbot	5,850	$169					1,522	$31
Ciscoes, fresh	167,110	11,363	20,555	$1,234	24,000	$1,440	863,050	48,878
Pike perch (wall-eyed or yellow pike)								
Suckers	700	36	357	21			40	6
Trout, lake	121,401	12,998	2,408	273	9,875	1,337	198,491	24,047
Whitefish, common, fresh	3,205	406	2,101	309	1,518	258	3,000	360
Yellow perch			4,942	396			1,000	70
Total	298,266	24,972	30,363	2,233	35,393	3,035	1,067,103	73,392
Lines: Trout, lake, fresh	27,465	3,530	13,466	1,526	36,575	5,676	38,981	5,021
Grand total	325,731	28,502	43,829	3,759	71,968	8,711	1,106,084	78,413

Apparatus and species.	Michigan—Continued.						Wisconsin.	
	Schoolcraft.		Van Buren.		Total.		Brown.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:								
Burbot					23,854	$544	32,230	$161
Ciscoes—								
Fresh	13,891	$557	80,016	$5,303	2,293,263	132,860	573,702	18,645
Salted					34,840	1,398	43,138	2,027
Pike perch (wall-eyed or yellow pike)	114	23			154	29		
Suckers	5,747	287	542	52	54,640	2,408	1,624	49
Trout, lake	347,412	28,328	60,871	7,197	2,805,567	233,333		
Whitefish—								
Common, fresh	203,575	28,635	14,360	2,101	1,761,607	189,733		
Common, salted					1,355	118		
Menominee, fresh	2,875	115			21,128	1,032		
Menominee, salted					6,698	496		
Yellow perch			623	62	24,221	1,711	70,144	2,806
Total	573,614	57,945	156,412	14,715	7,027,327	563,662	720,838	23,688
Lines: Trout, lake, fresh					223,968	24,762		
Grand total	573,614	57,945	156,412	14,715	7,251,295	588,424	720,838	23,688

Apparatus and species.	Wisconsin—Continued.							
	Door.		Kenosha.		Kewaunee.		Manitowoc.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:								
Burbot	43,664	$218						
Carp, Asiatic							1,300	$68
Ciscoes—								
Fresh	852,098	27,693	292,874	$16,084	265,573	$8,631	752,522	42,693
Salted	58,918	2,846						
Suckers	3,642	85			750	18	5,213	259
Trout, lake	285,784	29,722	180,346	19,616	41,723	4,339	152,772	13,800
Whitefish—								
Common, fresh	21,338	2,390					108	19
Menominee, fresh	23,145	926						
Yellow perch	38,851	1,554			15,312	612	10,928	951
Total	1,327,440	65,434	473,220	35,700	323,358	13,600	922,843	57,790
Lines:								
Pike	5,756	460						
Trout, lake—								
Fresh	300,888	31,292			410,525	42,695		
Salted					215	17		
Total	306,644	31,752			410,740	42,712		
Grand total	1,634,084	97,186	473,220	35,700	734,098	56,312	922,843	57,790

YIELD OF VESSEL FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin—Continued.							
	Marinette.		Milwaukee.		Oconto.		Ozaukee.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:								
Burbot	1,842	$9						
Ciscoes, fresh	1,868,107	65,372	965,870	$56,461	675,458	$21,952	309,680	$20,488
Pike	2,000	140						
Pike perch (wall-eyed or yellow pike)	700	84						
Suckers	166,218	7,849			6,089	142		
Trout, lake	99,528	8,808	1,029,581	105,051			177,128	18,600
Whitefish, common, fresh	21,056	2,176						
Yellow perch	68,114	2,725	71,360	5,224				
Total	2,227,565	87,163	2,066,811	166,736	681,547	22,094	486,808	39,088
Lines: Trout, lake, fresh							55,000	6,000
Grand total	2,227,565	87,163	2,066,811	166,736	681,547	22,094	541,808	45,088

Apparatus and species.	Wisconsin—Continued.						Grand total.	
	Racine.		Sheboygan.		Total.			
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:								
Burbot					77,736	$388	103,412	$1,008
Carp, Asiatic					1,300	68	1,300	68
Ciscoes—								
Fresh	17,400	$1,000	600,430	$44,474	7,173,714	323,493	10,874,565	541,096
Salted					102,056	4,873	136,896	6,271
Pike					2,000	140	2,000	140
Pike perch (wall-eyed or yellow pike)					700	84	854	113
Suckers					183,536	8,402	238,176	10,810
Trout, lake	64,375	8,500	238,000	29,500	2,269,237	237,936	5,322,504	497,582
Whitefish—								
Common, fresh					42,502	4,585	1,804,209	194,333
Common, salted							1,355	118
Menominee, fresh					23,145	926	44,273	1,958
Menominee, salted							6,698	496
Yellow perch					274,709	13,872	377,743	21,265
Total	81,775	9,500	838,430	73,974	10,150,635	594,767	18,913,185	1,275,258
Lines:								
Pike					5,756	460	5,756	460
Trout, lake—								
Fresh	462,750	64,300	406,300	48,430	1,635,463	192,717	1,866,431	218,179
Salted					215	17	215	17
Total	462,750	64,300	406,300	48,430	1,641,434	193,194	1,872,402	218,656
Grand total	544,525	73,800	1,244,730	122,404	11,792,069	787,961	20,786,387	1,493,914

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Michigan.									
	Allegan.		Antrim.		Benzie.		Berrien.		Charlevoix.	
Pound nets and trap nets:	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Burbot							100	$3	323	$8
Carp, Asiatic	300	$12					400	16		
Ciscoes, fresh	6,933	424	4,800	$282			63,984	3,616		
Pike perch (wall-eyed or yellow pike)	4,678	644					1,100	126		
Sheepshead or drum	1,600	64					300	12		
Sturgeon	795	179					1,720	443	40	5
Sturgeon caviar	16	32					190	570		
Suckers, fresh	4,249	186	3,250	208	10,000	$440	1,550	111		
Trout, lake, fresh	351	46	625	70			867	104	31,835	2,291
White bass	250	15								
Whitefish—										
Common, fresh	4,435	576	9,794	1,051	2,400	220	9,775	1,289	62,332	6,543
Menominee, fresh									865	49
Yellow perch, fresh	574	45			900	76	3,500	335	32,627	1,944
Total	24,181	2,223	18,469	1,611	13,300	736	83,486	6,625	128,022	10,840
Gill nets:										
Burbot									674	15
Ciscoes—										
Fresh	700	42	9,720	550	375	15	21,211	1,442	3,292	159
Salted	2,437	142								
Pike perch (wall-eyed or yellow pike)	80	11								
Sturgeon	100	26								
Suckers—										
Fresh	1,583	63			1,250	40	7,697	506	1,067	40
Salted									100	4
Trout, lake, fresh	665	93	2,565	270	31,250	2,500	16,158	2,391	74,542	5,492
Whitefish—										
Common, fresh	6,812	954	1,362	135	12,000	1,100	7,793	1,055	20,866	2,164
Menominee, fresh			240	18					12,398	760
Menominee, salted									7,300	546
Yellow perch	574	46			400	36	6,439	779	4,553	334
Total	12,951	1,377	13,887	973	45,275	3,691	59,298	6,173	124,792	9,514
Seines:										
Suckers							70	4		
Yellow perch							300	24		
Total							370	28		
Lines:										
Sturgeon							1,800	500		
Trout, lake			1,250	130						
Total			1,250	130			1,800	500		
Grand total	37,132	3,600	33,606	2,714	58,575	4,427	144,954	13,326	252,814	20,354

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.									
	Delta.		Emmet.		Grand Traverse.		Leelanau.		Mackinac.	
Pound nets and trap nets:	*Pounds.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Pounds.*	*Value.*
Burbot	565	$7								
Ciscoes—										
Fresh	161,888	5,445			14,220	$965	27,038	$1,303	10,575	$370
Salted	46,341	1,576								
Pike perch (wall-eyed or yellow pike)	10,039	1,297	75	$9						
Sturgeon	763	94			35	3			890	124
Suckers, fresh	297,084	12,027	3,600	149	187,351	6,496	47,389	1,911	9,575	409
Trout, lake, fresh	16,985	1,557	11,225	985	7,174	594	35,845	2,743	36,448	2,780
Whitefish—										
Common, fresh	40,688	3,327	20,400	2,510	37,588	5,335	97,041	7,973	428,103	41,548
Common, salted									531	75
Menominee, fresh	823	42	3,000	210			114	9	7,589	478
Menominee, salted									1,600	115
Yellow perch, fresh	49,520	3,305			200	16	2,489	214		
Total	624,696	28,677	38,300	3,863	246,568	13,409	209,916	14,153	495,311	45,899
Gill nets:										
Ciscoes—										
Fresh	68,538	2,875	3,168	170	10,220	615	4,920	244		
Salted	33,148	1,536								
Pike	1,230	123								
Pike perch (wall-eyed or yellow pike)	17,027	2,093								
Suckers, fresh	221,061	9,813							11,042	521
Trout, lake—										
Fresh	25,180	2,262	80,173	6,051	8,500	785	15,867	1,348	15,005	1,355
Salted									200	22
Whitefish—										
Common, fresh	85,677	8,046	22,187	2,276	2,120	236	6,211	624	32,359	3,725
Common, salted									59	8
Menominee, fresh	949	53					1,308	82	3,726	252
Yellow perch	106,883	7,148	5,800	460	2,970	260	866	70	380	19
Total	559,693	33,949	111,328	8,957	23,810	1,896	29,172	2,368	62,771	5,902
Fyke nets:										
Ciscoes	2,120	84								
Pike	5,000	500								
Pike perch (wall-eyed or yellow pike)	29,168	3,035								
Suckers, fresh	57,092	2,678								
Yellow perch	19,801	1,582								
Total	113,181	7,879								
Lines: Trout, lake			5,000	420	6,375	604	4,375	400		
Grand total	1,297,570	70,505	154,628	13,240	276,753	15,909	243,463	16,921	558,082	51,801

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.									
	Manistee.		Mason.		Menominee.		Muskegon.		Ottawa.	
Pound nets and trap nets:	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Burbot			1,000	$35	100	$1	200	$6	50	$1
Carp, Asiatic			130	5			410	16	600	23
Ciscoes—										
Fresh	7,688	$402	19,121	811	120,406	4,575	109,977	7,172	58,419	3,565
Salted					402,960	18,922				
Pike	25	1	900	90			300	30		
Pike perch (wall-eyed or yellow pike)	5,088	748	11,475	2,508	751	90	4,528	677	2,483	359
Sheepshead or drum			100	4			7,000	280	1,315	48
Sturgeon	158	35	48	10	361	72	434	104	360	108
Sturgeon caviar							50	125	25	62
Suckers, fresh	4,344	178	60,432	3,445			7,411	404	1,302	51
Trout, lake—										
Fresh	2,094	208	597	77	8,063	726	4,229	503	2,865	326
Salted					345	16				
Trout, steelhead							500	81		
White bass							350	35		
Whitefish—										
Common, fresh	10,519	1,212	12,612	1,670	4,254	468	4,499	661	3,812	467
Menominee, fresh					49	4				
Yellow perch—										
Fresh	4,945	191	3,513	391	3,461	136	650	55	4,040	210
Salted					1,725	81				
Total	34,861	2,975	109,928	9,046	542,475	25,091	140,538	10,149	75,271	5,220
Gill nets:										
Burbot					200	2				
Ciscoes, fresh	2,004	83	1,300	65	97,513	3,705	8,175	498	14,032	873
Pike	494	26								
Pike perch (wall-eyed or yellow pike)	497	70	300	45			850	127		
Sheepshead or drum			100	4						
Sturgeon	785	109	20	6						
Suckers—										
Fresh	13,431	590	1,000	50	3,754	150	6,640	391		
Salted					345	16				
Trout, lake, fresh	657	64	100	12	2,690	242	800	98	416	53
Trout, steelhead							200	36		
Whitefish, common, fresh	691	80	500	75			1,015	144	50	5
Yellow perch	4,870	104	800	64			2,545	203	16,778	1,423
Total	23,429	1,126	4,120	321	104,502	4,115	20,225	1,497	31,276	2,354
Pike nets:										
Pike					71	6				
Pike perch (wall-eyed or yellow pike)					314	38				
Yellow perch					1,100	44				
Total					1,485	88				
Seines: Yellow perch			700	56						
Grand total	58,290	4,101	114,748	9,423	648,462	29,294	160,763	11,646	106,547	7,574

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.						Indiana.			
	Schoolcraft.		Van Buren.		Total.		Lake.		Laporte.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value*
Pound nets and trap nets:										
Burbot					2,338	$61	125	$3	400	$32
Carp, Asiatic					1,840	72	400	16	650	26
Catfish and bullheads									120	17
Ciscoes—										
Fresh					605,049	28,930	65,000	3,800	59,000	2,840
Salted					449,301	20,498				
Pike					1,225	121			175	26
Pike perch (wall-eyed or yellow pike)	400	$80			40,617	6,538			1,400	240
Sheepshead or drum					10,315	408			750	30
Sturgeon					5,604	1,177	914	256	482	162
Sturgeon caviar					281	789	40	70	10	15
Suckers—										
Fresh	15,600	1,031			653,137	27,046	540	22	1,500	60
Salted	2,100	74			2,100	74				
Trout, lake—										
Fresh	16,162	1,274			175,365	14,284	100	10	600	84
Salted					345	16				
Trout, steelhead					500	81	200	30	900	180
White bass					600	50				
Whitefish—										
Common, fresh	107,427	10,842			855,679	85,692	300	42	3,300	595
Common, salted					531	75				
Menominee, fresh	15,250	610			27,690	1,402				
Menominee, salted	9,700	776			11,300	891				
Yellow perch—										
Fresh					106,419	6,918	6,300	565	6,500	605
Salted					1,725	81				
Total	166,639	14,687			2,951,961	195,204	73,919	4,814	75,787	4,912
Gill nets:										
Burbot					874	17	500	10		
Ciscoes—										
Fresh	12,335	514	1,200	$86	258,703	11,936	21,500	1,285	9,400	540
Salted					35,585	1,678				
Pike					1,724	149				
Pike perch (wall-eyed or yellow pike)	9	1			18,763	2,347				
Sheepshead or drum					100	4				
Sturgeon	50	6	50	13	1,005	160				
Suckers—										
Fresh	2,438	97	900	48	271,863	12,309	200	8	500	20
Salted					445	20				
Trout, lake—										
Fresh	15,390	1,203	2,400	284	292,358	24,503	19,000	2,340	100	11
Salted					200	22				
Trout, steelhead					200	36	19,000	2,850		
Whitefish—										
Common, fresh	12,939	1,348	10,000	1,202	222,582	23,169			150	27
Common, salted					59	8				
Menominee, fresh	9,248	277			27,869	1,442				
Menominee, salted					7,300	546				
Yellow perch			3,200	276	157,058	11,222	12,000	1,220	12,100	1,036
Total	52,409	3,446	17,750	1,909	1,296,688	89,568	72,200	7,713	22,250	1,634
Fyke nets:										
Ciscoes					2,120	84				
Pike					5,071	506				
Pike perch (wall-eyed or yellow pike)					29,482	3,073				
Suckers, fresh					57,092	2,678				
Yellow perch					20,901	1,626				
Total					114,666	7,967				

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.						Indiana.			
	Schoolcraft.		Van Buren.		Total.		Lake.		Laporte.	
Seines:	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Suckers					70	$4				
Yellow perch					300	24				
Total					370	28				
Lines:										
Sturgeon					1,800	500	600	$150		
Sturgeon caviar							15	30		
Trout, lake					17,000	1,554				
Yellow perch					700	56				
Total					19,500	2,110	615	180		
Grand total	219,048	$18,133	17,750	$1,909	4,383,185	294,877	146,734	12,707	98,037	$6,546

Apparatus and species.	Indiana—Continued.				Illinois.					
	Porter.		Total.		Cook.		Lake.		Total.	
Pound nets and trap nets:	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Burbot	150	$6	675	$41						
Carp, Asiatic	100	4	1,150	46						
Catfish and bullheads			120	17						
Ciscoes, fresh	80,000	4,000	204,000	10,640			9,600	$555	9,600	$555
Pike	50	4	225	30						
Pike perch (wall-eyed or yellow pike)			1,400	240						
Sheepshead or drum			750	30						
Sturgeon	400	112	1,796	530						
Sturgeon caviar			50	85						
Suckers, fresh	400	20	2,440	102			5,265	200	5,265	200
Trout, lake, fresh	1,300	130	2,000	224			16,250	1,750	16,250	1,750
Trout, steelhead	1,075	161	2,175	371						
Whitefish, common, fresh	250	36	3,850	673			33,600	4,750	33,600	4,750
Yellow perch, fresh	1,500	150	14,300	1,320			2,100	125	2,100	125
Total	85,225	4,623	234,931	14,349			66,815	7,380	66,815	7,380
Gill nets:										
Burbot	200	4	700	14						
Ciscoes, fresh	5,600	275	36,500	2,100	54,840	$2,990	117,120	5,825	171,960	8,815
Suckers, fresh	50	2	750	30						
Trout, lake, fresh			19,100	2,351						
Trout, steelhead	75	11	19,075	2,861						
Whitefish, common, fresh	50	7	200	34						
Yellow perch	2,700	210	26,800	2,466	20,000	1,350	16,000	1,015	36,000	2,365
Total	8,675	509	103,125	9,856	74,840	4,340	133,120	6,840	207,960	11,180
Lines:										
Sturgeon			600	150						
Sturgeon caviar			15	30						
Yellow perch					16,000	2,000			16,000	2,000
Total			615	180	16,000	2,000			16,000	2,000
Grand total	93,900	5,132	338,671	24,385	90,840	6,340	199,935	14,220	290,775	20,560

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin.									
	Brown.		Door.		Kenosha.		Kewaunee.		Manitowoc.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Pound nets and trap nets:										
Burbot	8,500	$43	2,530	$13						
Catfish and bullheads	600	24								
Ciscoes—										
Fresh	123,930	4,028	543,111	17,651			157,443	$5,117		
Salted			1,717,403	82,951						
Pike	600	48	3,216	257						
Pike perch (wall-eyed or yellow pike)	300	45								
Rock bass			1,714	137						
Sheepshead or drum	1,920	38								
Suckers—										
Fresh	538	13	48,176	1,930			3,112	75		
Salted			8,160	371						
Trout, lake—										
Fresh			121,531	11,667			1,238	119	298,198	$27,611
Salted			1,830	186						
Whitefish—										
Common, fresh	600	67	26,664	2,560			1,000	112	41,274	4,302
Menominee, salted			805	40						
Yellow perch, fresh	11,223	449	36,752	1,470			2,520	101	740	69
Total	148,211	4,755	2,511,892	119,233			165,313	5,524	340,212	31,982
Gill nets:										
Burbot	28,237	141								
Carp, Asiatic									500	23
Ciscoes—										
Fresh	380,801	12,376	200,524	6,517					3,240	162
Salted	15,222	735	12,229	591						
Pike perch (wall-eyed or yellow pike)	1,914	287	662	99						
Sheepshead or drum			318	16						
Suckers, fresh	2,142	50	12,817	308					7,300	295
Trout, lake, fresh			70,196	6,739					1,250	135
Yellow perch	210,432	8,417	50,214	2,009	6,360	$474			4,300	360
Total	638,748	22,006	346,960	16,279	6,360	474			16,590	975
Fyke nets:										
Burbot	17,919	90								
Carp, Asiatic	27,464	824								
Catfish and bullheads	147,977	5,955								
Pike	2,918	233								
Pike perch (wall-eyed or yellow pike)	16,075	2,411								
Sheepshead or drum	15,009	300								
Suckers—										
Fresh	483,993	11,293								
Salted	2,600	122								
White bass	675	27								
Yellow perch	824,904	32,996								
Total	1,539,534	54,251								
Seines:										
Carp, Asiatic	185,989	5,580							960	50
Suckers	49,473	1,154							6,250	245
Whitefish									1,200	130
Yellow perch	5,600	224								
Total	241,062	6,958							8,410	425
Lines:										
Trout, lake			24,120	2,316			8,327	799		
Yellow perch			9,415	377						
Total			33,535	2,693			8,327	799		
Crawfish pots: Crawfish	80,495	4,427								
Grand total	2,648,050	92,397	2,892,387	138,205	6,360	474	173,640	6,323	365,212	33,382

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin—Continued.									
	Marinette.		Milwaukee.		Oconto.		Ozaukee.		Racine.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Pound nets and trap nets:										
Carp, Asiatic			200	$12	100	$3				
Catfish and bullheads	3,969	$159			1,800	72				
Ciscoes—										
Fresh	305,732	7,643	4,800	235	428,342	13,921	30,000	$1,200		
Salted	317,135	15,318			233,995	11,302				
Pike					4,000	320				
Pike perch (wall-eyed or yellow pike)	276	41			4,441	666				
Suckers—										
Fresh	18,320	427	900	45	32,944	769	900	42		
Salted					805	38				
Trout, lake—										
Fresh	25,461	2,648	625	76	15,144	1,575	20,000	1,700		
Salted					230	18				
Whitefish, common, fresh	3,778	423	4,680	571	14,344	1,607	5,040	545		
Yellow perch, fresh	24,510	980	8,000	650	201,680	8,067	800	68		
Total	699,181	27,639	19,205	1,589	937,825	38,358	56,740	3,555		
Gill nets:										
Burbot					1,600	8				
Ciscoes, fresh	222,409	5,560	98,640	4,724	342,131	11,119	2,460	105	3,000	$150
Suckers, fresh	19,716	460	1,205	43	4,992	116	1,900	89		
Trout, lake, fresh	9,701	1,009	41,250	5,000						
Whitefish, common, fresh	1,838	206								
Yellow perch	9,896	396	38,000	3,100	2,600	104	1,700	127	3,500	270
Total	263,560	7,631	179,095	12,867	351,323	11,347	6,060	321	6,500	420
Fyke nets:										
Carp, Asiatic					400	12				
Catfish and bullheads					10,000	400				
Pike	4,562	365			9,100	728				
Pike perch (wall-eyed or yellow pike)	642	96			10,823	1,623				
Suckers, fresh	8,645	202			65,887	1,537				
Yellow perch	7,901	316			134,453	5,378				
Total	21,750	979			230,663	9,678				
Seines:										
Carp, Asiatic					26,000	780				
Pike perch (wall-eyed or yellow pike)					5,575	866				
Suckers					100,000	2,333				
Total					131,775	3,979				
Lines:										
Trout, lake			4,375	550			50,000	4,400		
Yellow perch									2,450	175
Total			4,375	550			50,000	4,400	2,450	175
Grand total	984,491	36,249	202,675	15,006	1,651,586	63,362	112,800	8,276	8,950	595

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin—Continued.				Grand total.	
	Sheboygan.		Total.			
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Pound nets and trap nets:						
Burbot			11,030	$56	14,043	$158
Carp, Asiatic			300	15	3,290	133
Catfish and bullheads			6,369	255	6,489	272
Ciscoes—						
Fresh	332,528	$11,974	1,925,886	61,769	2,744,535	101,894
Salted			2,268,533	109,571	2,717,834	130,069
Pike			7,816	625	9,266	776
Pike perch (wall-eyed or yellow pike)			5,017	752	47,034	7,530
Rock bass			1,714	137	1,714	137
Sheepshead or drum			1,920	38	12,985	476
Sturgeon					7,400	1,707
Sturgeon caviar					331	874
Suckers—						
Fresh	150	4	105,040	3,305	765,882	30,653
Salted			8,965	409	11,065	483
Trout, lake—						
Fresh	245,471	26,108	727,668	71,504	921,283	87,762
Salted			2,060	204	2,405	220
Trout, steelhead					2,675	452
White bass					600	50
Whitefish—						
Common, fresh	24,910	3,988	122,290	14,175	1,015,419	105,290
Common, salted					531	75
Menominee, fresh					27,690	1,402
Menominee, salted			805	40	12,105	931
Yellow perch—						
Fresh	100	5	286,325	11,859	409,144	20,222
Salted					1,725	81
Total	603,159	42,079	5,481,738	274,714	8,735,445	491,647
Gill nets:						
Burbot			29,837	149	31,411	180
Carp, Asiatic			500	23	500	23
Ciscoes—						
Fresh			1,253,205	40,713	1,720,368	63,564
Salted			27,451	1,326	63,036	3,004
Pike					1,724	149
Pike perch (wall-eyed or yellow pike)			2,576	386	21,339	2,733
Sheepshead or drum			318	16	418	20
Sturgeon					1,005	160
Suckers—						
Fresh	4,700	175	54,772	1,536	327,385	13,875
Salted					445	20
Trout, lake—						
Fresh			122,397	12,883	433,855	39,737
Salted					200	22
Trout, steelhead					19,275	2,897
Whitefish—						
Common, fresh			1,838	206	224,620	23,409
Common, salted					59	8
Menominee, fresh	500	27	500	27	28,369	1,469
Menominee, salted					7,300	546
Yellow perch	4,500	425	331,502	15,682	551,360	31,735
Total	9,700	627	1,824,896	72,947	3,432,669	183,551
Fyke nets:						
Burbot			17,919	90	17,919	90
Carp, Asiatic			27,864	836	27,864	836
Catfish and bullheads			157,977	6,355	157,977	6,355
Ciscoes					2,120	84
Pike			16,580	1,326	21,651	1,832
Pike perch (wall-eyed or yellow pike)			27,540	4,130	57,022	7,203
Sheepshead or drum			15,009	300	15,009	300
Suckers—						
Fresh			558,525	13,032	615,617	15,710
Salted			2,600	122	2,600	122
White bass			675	27	675	27
Yellow perch			967,258	38,690	988,159	40,316
Total			1,791,947	64,908	1,906,613	72,875

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin—Continued.				Grand total.	
	Sheboygan.		Total.			
Seines:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Carp, Asiatic	600	$30	213,549	$6,440	213,549	$6,440
Pike	200	18	200	18	200	18
Pike perch (wall-eyed or yellow pike)			5,775	866	5,775	866
Suckers	1,600	75	157,323	3,807	157,393	3,811
Whitefish			1,200	130	1,200	130
Yellow perch	200	25	5,800	249	6,100	273
Total	2,600	148	383,847	11,510	384,217	11,538
Lines:						
Sturgeon					2,400	650
Sturgeon caviar					15	30
Trout, lake			86,822	8,065	103,822	9,619
Yellow perch			11,865	552	28,565	2,608
Total			98,687	8,617	134,802	12,907
Crawfish pots: Crawfish			80,495	4,427	80,495	4,427
Grand total	615,459	42,854	9,661,340	437,123	14,674,241	776,945

WHOLESALE FISHERY TRADE.

The wholesale fishery trade of Lake Michigan in 1917 was carried on by 75 establishments, of which 38 were in Chicago, 7 in Green Bay, and the same number in Milwaukee, the principal centers of the wholesale trade, and the remaining 22 distributed in Michigan and Wisconsin towns. The number of persons employed was 752, to whom $792,927 were paid in wages; the value of the shore and accessory property utilized was $1,444,826; and the cash capital amounted to $349,800.

The following table shows the extent of the wholesale fishery trade of Lake Michigan in 1917:

WHOLESALE FISHERY TRADE OF LAKE MICHIGAN IN 1917.

Cities and towns.	State.	Number of firms.	Persons engaged.	Wages paid.	Shore and accessory property.	Cash capital.
Chicago[1]	Illinois	39	485	$624,821	$1,082,919	$113,500
Grand Haven, Charlevoix, and St. Joseph.	Michigan	5	24	27,178	40,105	41,000
Escanaba, Fairport, Manistique, and Naubinway.	....do	4	10	3,460	7,300	6,000
Menominee	....do	3	36	18,100	65,961	80,000
Green Bay	Wisconsin	7	107	82,504	153,694	79,500
Sturgeon Bay, Detroit Harbor, and Two Rivers.	....do	4	18	6,564	15,710	8,300
Marinette	....do	3	32	14,700	16,687	9,000
Milwaukee	....do	7	26	10,900	58,000	10,000
Port Washington and Sheboygan	....do	3	14	4,700	4,450	2,500
Total		75	752	792,927	1,444,826	349,800

[1] Includes one firm at Michigan City, Ind.

FISHERIES OF LAKE HURON.

The total number of persons employed in the fisheries of Lake Huron in 1917 was 1,348. Of this number, 149 were on fishing vessels, 29 on transporting vessels, 1,023 in the shore or boat fisheries, and 147 shoresmen in the wholesale establishments and other shore activities.

The total investment in the fisheries amounted to $1,188,705, which included 26 steam and gasoline fishing vessels of 379 net tons, valued at $76,500, and their outfits valued at $27,990; 21 transporting vessels of 193 net tons, valued at $40,500, and outfits valued at $5,250; 570 boats valued at $111,980; fishing apparatus used in the vessel fisheries to the value of $73,419 and in the shore or boat fisheries to the value of $264,874; shore and accessory property with a value of $432,092; and cash capital amounting to $156,100. Gill nets and lines were employed in both vessel and shore fisheries. The number of gill nets used in the vessel fisheries was 6,613, representing a value of $69,575, and in the boat fisheries 3,997, valued at $33,260, a total of 10,610 nets with a value of $102,835. The use of pound nets, trap nets, fyke nets, seines, and spears was confined to the shore fisheries. The number of pound nets and trap nets operated was 1,731, valued at $207,904.

The products of the fisheries of Lake Huron in 1917 aggregated 13,363,207 pounds, valued at $857,478. The more important species were ciscoes, 5,381,365 pounds, valued at $215,782; lake trout, 2,079,455 pounds, valued at $214,574; suckers, 1,776,767 pounds, valued at $72,933; carp, 1,145,250 pounds, valued at $43,474; common whitefish, 998,226 pounds, valued at $124,637; pike perch, 994,672 pounds, valued at $119,234; and yellow perch, 844,019 pounds, valued at $56,464.

In comparison with the other lakes in 1917 Lake Huron ranked third in the number of persons engaged, investment, and value of the products and fourth in the quantity of products taken. Compared with 1903 there has been a decrease of 356, or 20.89 per cent, in the number of persons engaged; an incease of $337,066, or 39.57 per cent, in the investment and $407,160, or 90.42 per cent, in the value of the products; and a decrease of 1,092,002 pounds, or 7.55 per cent, in the quantity of the products.

FISHERIES, BY COUNTIES.

The number of persons engaged, investment, and quantity and value of the products of the fisheries in 1917, by counties, are shown in the following tables:

STATISTICS OF THE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES.

PERSONS ENGAGED.

County.	On vessels fishing.	On vessels transporting.	In shore or boat fisheries.	Shoresmen.	Total.
Alcona	.....	.....	20	.....	20
Alpena	54	1	66	14	135
Arenac	.....	.....	91	.....	91
Bay	.....	2	220	46	268
Cheboygan	19	12	73	8	112
Chippewa	5	6	49	4	64
Huron	38	2	246	52	338
Iosco	9	.....	67	11	87
Mackinac	.....	5	89	4	98
Presque Isle	24	.....	20	5	49
St. Clair	.....	1	18	3	22
Sanilac	.....	.....	42	.....	42
Tuscola	.....	.....	22	.....	22
Total	149	29	1,023	147	1,348

STATISTICS OF THE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES—Continued.

INVESTMENT.

Items.	Alcona.		Alpena.		Arenac.		Bay.		Cheboygan.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Vessels, fishing:										
Steam			6	$29,500					1	$2,500
Tonnage			154						9	
Outfit				12,650						1,400
Gasoline			1	3,000					4	5,500
Tonnage			8						35	
Outfit				250						1,530
Vessels transporting:										
Steam									1	5,500
Tonnage									13	
Outfit										300
Gasoline			1	1,000			1	$2,800	9	15,700
Tonnage			10				9		78	
Outfit				100				475		2,010
Sail and rowboats	8	$240	32	695	13	$345	51	1,465	29	840
Power boats	5	975	16	2,860	14	3,450	44	16,900	15	4,675
Apparatus, vessel fisheries:										
Gill nets			2,758	31,460					1,130	10,215
Lines				800						
Apparatus, shore fisheries:										
Pound nets and trap nets	39	2,750	108	8,385	81	19,856	240	33,330	276	12,825
Gill nets	70	600	223	1,542	6	60	69	700	455	4,490
Fyke nets					10	400	122	4,325		
Seines					11	1,470	27	3,125		
Lines		50								
Spears					25	200	90	720		
Shore and accessory property		4,000		37,825		17,250		115,672		16,125
Cash capital				37,000				41,500		20,000
Total		8,615		167,067		43,031		221,012		103,610

Items.	Chippewa.		Huron.		Iosco.		Mackinac.		Presque Isle.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Vessels, fishing:										
Steam	1	$2,000	4	$22,500	1	$1,000				
Tonnage	9		80		14					
Outfit		400		6,200		1,800				
Gasoline			2	3,600	1	700			5	$6,200
Tonnage			22		8				40	
Outfit				700						3,060
Vessels transporting:										
Steam							1	$1,500		
Tonnage							11			
Outfit								200		
Gasoline	3	6,700	1	1,500			3	3,300		
Tonnage	28		7				30			
Outfit		935		400				530		
Sail and rowboats	20	415	74	2,000	15	385	38	855	13	300
Power boats	16	7,700	68	31,625	23	12,900	28	11,925	4	900
Apparatus, vessel fisheries:										
Gill nets	100	1,000	1,330	12,800	300	2,600			995	11,500
Lines				2,344		300				400
Apparatus, shore fisheries:										
Pound nets and trap nets	184	9,150	397	65,383	75	18,850	223	15,395	22	1,480
Gill nets	743	5,522	588	4,384	819	7,956	579	4,064	74	702
Fyke nets			309	6,830	9	450				
Seines			30	2,915	4	180				
Lines				1,435		165		80		100
Spears			75	600						
Shore and accessory property		10,750		147,432		28,050		9,630		10,150
Cash capital		2,000		25,600		10,000		10,000		5,000
Total		42,572		338,248		85,336		57,479		39,792

STATISTICS OF THE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES—Continued.

INVESTMENT—Continued.

Items.	St. Clair.		Sanilac.		Tuscola.		Total.	
	Number.	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number*	*Value.*
Vessels fishing:								
Steam							13	$57,500
Tonnage							266	
Outfit								22,450
Gasoline							13	19,000
Tonnage							113	
Outfit								5,540
Vessels transporting:								
Steam							2	7,000
Tonnage							24	
Outfit								500
Gasoline	1	$2,500					19	33,500
Tonnage	7						169	
Outfit		300						4,750
Sail and rowboats	3	95	9	$220	5	$165	310	8,020
Power boats	6	1,200	15	6,900	6	1,950	260	103,960
Apparatus, vessel fisheries:								
Gill nets							6,613	69,575
Lines								3,841
Apparatus, shore fisheries:								
Pound nets and trap nets	13	2,300	42	14,400	31	3,800	1,731	207,904
Gill nets	90	265	281	2,975			3,997	33,260
Fyke nets					10	130	460	12,135
Seines					5	270	77	7,960
Lines		100		135		30		2,095
Spears							190	1,520
Shore and accessory property		11,153		18,555		5,500		432,092
Cash capital		5,000						156,100
Total		22,913		43,185		11,845		1,188,705

YIELD, BY SPECIES.

Species.	Alcona.		Alpena.		Arenac.		Bay.		Cheboygan.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Bowfin					200	$4				
Burbot							200	$4	350	$7
Carp, Asiatic					15,008	636	219,105	8,297	850	34
Catfish and bullheads			21	$1	850	62	13,538	1,245	450	22
Ciscoes:										
Fresh	182,050	$5,390	395,366	27,297	168,594	4,695	345,762	5,919	44,499	2,333
Salted			2,480	105	174,855	9,242	207,585	9,341		
Smoked			3,000	120						
Muskellunge			45	5						
Pike	300	32	510	47	100	10	1,150	97	925	76
Pike perch (wall-eyed or yellow pike), fresh	7,100	855	12,622	2,238	51,059	5,337	283,199	29,903	24,857	2,497
Rock bass					300	12	800	48	833	34
Sheepshead or drum					300	12	600	18		
Sturgeon	193	25	665	133	70	21	200	50	260	59
Sturgeon caviar			23	46			12	24		
Suckers, fresh	37,825	1,497	118,458	6,202	59,131	1,806	413,447	12,221	377,751	15,686
Sunfish					300	12	800	32		
Trout, lake:										
Fresh	16,850	1,737	509,995	60,392	140	14	2,400	244	136,515	13,616
Salted			4,475	448						
Whitefish:										
Common, fresh	2,600	349	188,512	26,620	21,255	2,691	45,877	4,649	162,662	19,940
Common, salted			850	130						
Common, caviar							300	60		
Menominee, fresh	11,200	279	15,691	694					5,605	372
Menominee, salted			1,800	90					14,417	787
Yellow perch	2,000	150	10,312	1,020	60,182	3,636	444,511	26,384	20,856	1,482
Total	260,118	10,314	1,264,825	125,588	552,344	28,190	1,979,486	98,536	790,830	56,945

STATISTICS OF THE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

Species.	Chippewa.		Huron.		Iosco.		Mackinac.		Presque Isle.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Bowfin										
Burbot					824	$24	800	$16		
Carp, Asiatic			861,976	$32,574	200	8				
Catfish and bullheads	1,077	$178	14,493	1,505	300	30				
Ciscoes:										
Fresh	101,300	5,065	747,798	26,180	492,389	12,857	10,200	414	275,481	$15,173
Salted			1,243,019	53,355	125,700	7,542	61,000	2,495		
Muskellunge	100	10								
Pike	6,000	600	2,419	241	200	16	750	56		
Pike perch (wall-eyed or yellow pike):										
Fresh	29,998	4,280	374,691	51,908	117,816	11,424	3,092	339	1,050	113
Salted									30	3
Rock bass	2,000	100								
Sheepshead or drum			5,850	176						
Sturgeon			930	187	650	160	240	49		
Sturgeon caviar					20	40	20	50		
Suckers:										
Fresh	241,712	13,609	130,096	3,953	46,322	1,870	291,896	13,782	28,777	1,161
Salted							1,000	50		
Sunfish	200	10								
Trout, lake:										
Fresh	146,667	12,348	582,708	61,891	433,000	38,424	87,933	9,341	97,977	9,831
Salted	900	90	2,235	90			1,000	150	48	6
Whitefish:										
Common, fresh	17,113	1,883	184,784	21,624	159,011	17,558	141,371	19,030	30,922	3,816
Common, salted							2,500	200		
Common, caviar			1,075	197						
Menominee, fresh	650	52			136	6	9,475	513	3,700	275
Menominee, salted							3,800	323		
Yellow perch	24,371	2,225	178,184	13,226	8,695	617	55,183	4,348	200	19
Total	572,088	40,450	4,330,258	267,107	1,385,263	90,576	670,260	51,156	438,185	30,397

Species.	St. Clair.		Sanilac.		Tuscola.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfin							200	$4
Burbot							2,174	51
Carp, Asiatic			1,800	$72	46,311	$1,853	1,145,250	43,474
Catfish and bullheads			200	16	2,400	236	33,329	3,295
Ciscoes:								
Fresh	45,914	$1,289	443,257	13,298	24,963	795	3,277,573	120,705
Salted			286,053	12,873	100	4	2,100,792	94,957
Smoked							3,000	120
Muskellunge							145	15
Pike							12,354	1,175
Pike perch (wall-eyed or yellow pike):								
Fresh	26,320	3,980	19,010	2,594	43,828	3,763	994,642	119,231
Salted							30	3
Rock bass			50	2	300	12	4,283	208
Sheepshead or drum	10,181	382	200	6	600	21	17,731	615
Sturgeon	1,218	287	460	92			4,886	1,063
Sturgeon caviar	122	268	30	67			227	495
Suckers:								
Fresh	6,481	426	4,404	168	19,467	502	1,775,767	72,883
Salted							1,000	50
Sunfish			50	2	300	12	1,650	68
Trout, lake:								
Fresh	1,242	143	42,429	4,515			2,070,797	213,790
Salted							8,658	784
Whitefish:								
Common, fresh	2,107	296	37,014	5,556	273	38	993,501	124,050
Common, salted							3,350	330
Common, caviar							1,375	257
Menominee, fresh							46,457	2,191
Menominee, salted							20,017	1,200
Yellow perch	731	74	6,958	972	31,836	2,311	844,019	56,464
Total	**94,316**	**7,145**	**841,915**	**40,233**	**170,378**	**9,547**	**13,363,207**	**857,478**

FISHERIES, BY APPARATUS.

The vessel fisheries of Lake Huron in 1917 were credited with 2,675,783 pounds, valued at $258,297, and the shore or boat fisheries with 10,687,424 pounds, valued at $599,181. In the vessel fisheries, the principal form of apparatus was the gill net, the catch of all species amounting to 2,350,721 pounds, with a value of $224,787. The principal species were lake trout, 1,094,301 pounds, valued at $116,925; ciscoes, 826,537 pounds, valued at $53,125; and common whitefish, 410,475 pounds, valued at $53,716. The catch with lines, consisting of lake trout, was 325,062 pounds, valued at $33,510.

The principal apparatus of capture used in the shore or boat fisheries was pound nets and trap nets, the catch amounting to 7,936,249 pounds, consisting principally of ciscoes, pike perch, suckers, common whitefish, and yellow perch, valued at $420,409. The catch with other forms of apparatus in the shore fisheries was as follows: Gill nets, 994,759 pounds, principally ciscoes, lake trout, and common whitefish, valued at $88,257; seines, 1,306,502 pounds, principally carp, valued at $56,474; fyke nets, 263,999 pounds, principally yellow perch, suckers, carp, and pike perch, valued at $14,108; lines, 106,655 pounds, consisting of catfish, lake trout, common whitefish, and yellow perch, valued at $10,644; and spears, 79,260 pounds, consisting of carp, pike, pike perch, lake trout, and yellow perch, valued at $9,289. The total catch with gill nets in both vessels and shore fisheries amounted to 3,345,480 pounds, valued at $313,044, and with lines, 431,717 pounds, valued at $44,154.

The following tables give the products of the vessel and shore fisheries of Lake Huron in 1917:

YIELD OF VESSEL FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS.

Apparatus and species.	Alpena.		Cheboygan.		Chippewa.		Huron.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:								
Burbot	.....	.....	300	$6	.....	.....	.....	.....
Carp, Asiatic	.....	.....	.....	.....	.....	.....	75	$3
Ciscoes	314,232	$24,074	29,704	1,492	54,000	$2,700	162,420	9,978
Pike perch (wall-eyed or yellow pike)	1,000	91	155	19	.....	.....	206	36
Sturgeon	.....	.....	60	15	.....	.....	.....	.....
Suckers	.....	.....	.....	.....	.....	.....	100	2
Trout, lake	489,041	58,220	72,187	7,192	15,000	1,500	192,354	21,983
Whitefish—								
Common	165,463	23,762	89,345	11,027	.....	.....	82,755	10,536
Menominee	8,460	338	750	35	.....	.....	.....	.....
Yellow perch	.....	.....	221	27	.....	.....	1,571	188
Total	978,196	106,485	192,722	19,813	69,000	4,200	439,481	42,726
Lines:								
Trout, lake—								
Fresh	4,500	450	.....	.....	.....	.....	292,193	30,518
Salted	.....	.....	.....	.....	.....	.....	2,235	90
Total	4,500	450	.....	.....	.....	.....	294,428	30,608
Grand total	982,696	106,935	192,722	19,813	69,000	4,200	733,909	73,334

YIELD OF VESSEL FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued.

Apparatus and species.	Iosco.		Presque Isle.		Total.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Gill nets:						
Burbot					300	$6
Carp, Asiatic					75	3
Ciscoes			266,181	$14,881	826,537	53,125
Pike perch (wall-eyed or yellow pike)	2,160	$173			3,521	319
Sturgeon					60	15
Suckers	3,250	33			3,350	35
Trout, lake	236,450	18,916	76,328	7,820	1,094,301	116,925
Whitefish—						
Common	45,650	5,021	27,262	3,370	410,475	53,716
Menominee			1,100	55	10,310	428
Yellow perch					1,792	215
Total	287,510	24,143	370,871	26,126	2,350,721	224,787
Lines:						
Trout, lake—						
Fresh	10,000	1,000	16,134	1,452	322,827	33,420
Salted					2,235	90
Total	10,000	1,000	16,134	1,452	325,062	33,510
Grand total	297,510	25,143	387,005	27,578	2,675,783	258,297

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS.

Apparatus and species.	Alcona.		Alpena.		Arenac.		Bay.		Cheboygan.	
Pound nets and trap nets:	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Burbot							200	$4	50	$1
Carp, Asiatic					2,927	$138	19,871	720	850	34
Catfish and bullheads			21	$1			6,300	564	450	22
Ciscoes—										
Fresh	181,550	$5,360	69,934	2,715	168,594	4,695	339,262	5,644	7,295	360
Salted			300	12	174,855	9,242	207,585	9,341		
Muskellunge			45	5						
Pike	300	32	510	47			450	37	825	66
Pike perch (wall-eyed or yellow pike)	7,100	855	11,510	2,136	19,444	2,036	172,850	17,699	24,702	2,478
Rock bass					300	12	200	8	833	34
Sheepshead or drum					300	12	600	18		
Sturgeon	193	25	665	133	70	21	200	50	200	44
Sturgeon caviar			23	46			12	24		
Suckers, fresh	37,825	1,497	115,558	6,115	15,130	469	292,716	9,165	369,588	15,317
Sunfish					300	12	400	16		
Trout, lake	1,300	170	8,369	938	140	14	2,400	244	1,600	160
Whitefish—										
Common	1,200	169	23,049	2,858	21,255	2,691	45,165	4,541	36,545	4,367
Common caviar							300	60		
Menominee	11,100	269							529	25
Yellow perch	2,000	150	8,812	910	48,989	2,980	360,432	20,934	13,073	924
Total	242,568	8,527	238,796	15,916	452,304	22,322	1,448,943	69,069	456,540	23,832
Gill nets:										
Bowfin					200	4				
Carp, Asiatic					400	16				
Catfish and bullheads					150	6				
Ciscoes—										
Fresh	500	30	11,200	508					7,500	481
Salted			2,180	93						
Smoked			3,000	120						
Pike									100	10
Pike perch (wall-eyed or yellow pike, fresh			112	11	400	40				
Suckers			2,900	87	1,000	20	2,000	40	8,163	369
Trout, lake—										
Fresh	15,200	1,525	8,085	784					62,728	6,264
Salted			4,475	448						
Whitefish—										
Common, fresh	1,400	180							36,772	4,546
Common, salted			850	130						
Menominee, fresh	100	10	7,231	356					4,326	312
Menominee, salted			1,800	90					14,417	787
Yellow perch			1,500	110	250	18	6,000	550	7,562	531
Total	17,200	1,745	43,333	2,737	2,400	104	8,000	590	141,568	13,300

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued.

Apparatus and species.	Alcona.		Alpena.		Arenac.		Bay.		Cheboygan.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Fyke nets:										
Carp, Asiatic							8,925	$353		
Catfish and bullheads							1,800	148		
Ciscoes, fresh							6,500	275		
Pike perch (wall-eyed or yellow pike)							12,572	1,431		
Rock bass							400	32		
Suckers					423	$13	54,544	1,514		
Sunfish							200	8		
Whitefisn, common							500	80		
Yellow perch					4,800	240	59,571	3,605		
Total					5,223	253	145,012	7,446		
Seines:										
Carp, Asiatic					11,681	482	190,309	7,224		
Catfish and bullheads					700	56	5,438	533		
Pike					100	10	700	60		
Pike perch (wall-eyed or yellow pike)					27,215	2,701	77,777	7,973		
Rock bass							200	8		
Suckers					42,578	1,304	64,187	1,502		
Sunfish							200	8		
Whitefish, common							212	28		
Yellow perch					5,643	373	16,508	1,095		
Total					87,917	4,926	355,531	18,431		
Lines: Trout, lake	350	$42								
Spears:										
Pike perch (wall-eyed or yellow pike)					4,000	560	20,000	2,800		
Yellow perch					500	25	2,000	200		
Total					4,500	585	22,000	3,000		
Grand total	260,118	10,314	282,129	$18,653	552,344	28,190	1,979,486	98,536	598,108	$37,132

Apparatus and species.	Chippewa.		Huron.		Iosco.		Mackinac.		Presque Isle.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Pound nets and trap nets:										
Burbot					824	$24				
Carp, Asiatic			20,700	$828	200	8				
Catfish and bullheads	1,077	$178	4,473	437	300	30				
Ciscoes—										
Fresh			557,028	14,866	488,389	12,777	9,500	$380		
Salted			1,243,019	53,355	125,700	7,542	61,000	2,495		
Muskellunge	100	10								
Pike	6,000	600	284	28	200	16	750	56		
Pike perch (wall-eyed or yellow pike)	19,072	2,779	337,833	46,932	112,242	10,848	2,896	299	500	$50
Rock bass	2,000	100								
Sheepshead or drum			5,300	159						
Sturgeon			930	187	650	160	240	49		
Sturgeon caviar					20	40	20	50		
Suckers—										
Fresh	228,412	13,170	60,411	1,560	39,117	1,695	280,396	13,237	25,877	1,061
Salted							1,000	50		
Sunfish	200	10								
Trout, lake	9,187	919	9,465	701	12,829	1,190	23,929	2,706		
Whitefish—										
Common	1,923	261	94,731	10,184	42,379	4,375	99,942	14,468		
Common caviar			1,075	197						
Menominee					136	6				
Yellow perch	9,371	945	97,354	6,273	5,795	367	49,199	3,869	150	15
Total	277,342	18,972	2,432,603	135,707	828,781	39,078	528,872	37,659	26,527	1,126

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued.

Apparatus and species.	Chippewa.		Huron.		Iosco.		Mackinac.		Presque Isle.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Gill nets:										
Burbot							800	$16		
Ciscoes, fresh	47,300	$2,365	27,850	$1,311	4,000	$80	700	34	9,300	$292
Pike perch (wall-eyed or yellow pike)—										
Fresh	10,926	1,501	13,508	1,394	1,789	216	196	40	550	63
Salted									30	3
Suckers	13,300	439	24,900	933	700	14	11,500	545	2,900	100
Trout, lake—										
Fresh	122,480	9,929	33,790	3,379	159,221	15,888	60,604	6,219	3,850	393
Salted	900	90					1,000	150	48	6
Whitefish—										
Common, fresh	15,190	1,622	7,298	904	67,787	7,749	41,353	4,557	3,660	446
Common, salted							2,500	200		
Menominee, fresh	650	52					9,475	513	2,600	220
Menominee, salted							3,800	323		
Yellow perch	15,000	1,280	22,082	1,750			5,984	479	50	4
Total	225,746	17,278	129,428	9,671	233,497	23,927	137,912	13,076	22,988	1,527
Fyke nets:										
Carp, Asiatic			3,500	139						
Catfish and bullheads			1,220	108						
Ciscoes, fresh			500	25						
Pike			135	13						
Pike perch (wall-eyed or yellow pike)			1,584	171						
Sheepshead or drum			50	2						
Suckers			44,685	1,458	300	7				
Yellow perch			44,052	3,636	2,000	160				
Total			95,726	5,552	2,300	167				
Seines:										
Carp, Asiatic			817,701	30,604						
Catfish and bullheads			800	80						
Pike perch (wall-eyed or yellow pike)					1,625	187				
Sheepshead or drum			500	15						
Suckers					2,955	121				
Whitefish, common					3,195	413				
Yellow perch			2,500	250	900	90				
Total			821,501	30,949	8,675	811				
Lines:										
Catfish			8,000	880						
Trout, lake			53,656	5,110	14,500	1,450	3,400	416	1,665	166
Whitefish, common							76	5		
Yellow perch			2,675	200						
Total			64,331	6,190	14,500	1,450	3,476	421	1,665	166
Spears:										
Carp, Asiatic			20,000	1,000						
Pike			2,000	200						
Pike perch (wall-eyed or yellow pike)			21,560	3,375						
Trout, lake			1,250	200						
Yellow perch			7,950	929						
Total			52,760	5,704						
Grand total	503,088	36,250	3,596,349	193,773	1,087,753	65,433	670,260	51,156	51,180	2,819

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued.

Apparatus and species.	St. Clair.		Sanilac.		Tuscola.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Pound nets and trap nets:								
Burbot							1,074	$29
Carp, Asiatic			1,800	$72	6,383	$255	52,731	2,055
Catfish and bullheads			200	16	400	36	13,221	1,284
Ciscoes—								
Fresh	45,914	$1,289	443,257	13,298	24,963	795	2,335,686	62,179
Salted			286,053	12,873			2,098,512	94,860
Muskellunge							145	15
Pike							9,319	882
Pike perch (wall-eyed or yellow pike)	26,320	3,980	19,010	2,594	43,278	3,708	796,757	96,394
Rock bass			50	2			3,383	156
Sheepshead or drum	10,181	382	200	6	300	12	16,881	589
Sturgeon	1,218	287	460	92			4,826	1,048
Sturgeon caviar	122	268	30	67			227	495
Suckers—								
Fresh	6,481	426	4,404	168	15,229	417	1,491,144	64,297
Salted							1,000	50
Sunfish			50	2			950	40
Trout, lake	192	23	3,011	320			72,422	7,385
Whitefish—								
Common	2,107	296	25,369	3,476	273	38	393,938	47,724
Common caviar							1,375	257
Menominee							11,765	300
Yellow perch	731	74	6,051	890	28,936	2,039	630,893	40,370
Total	93,266	7,025	789,945	33,876	119,762	7,300	7,936,249	420,409
Gill nets:								
Bowfin							200	4
Burbot							800	16
Carp, Asiatic							400	16
Catfish and bullheads							150	6
Ciscoes—								
Fresh							108,350	5,101
Salted							2,180	93
Smoked							3,000	120
Pike							100	10
Pike perch (wall-eyed or yellow pike)—								
Fresh							27,481	3,265
Salted							30	3
Suckers							67,363	2,547
Trout, lake—								
Fresh	250	40	19,885	2,100			486,093	46,501
Salted							6,423	694
Whitefish—								
Common, fresh			11,645	2,080			185,105	22,084
Common, salted							3,350	330
Menominee, fresh							24,382	1,463
Menominee, salted							20,017	1,200
Yellow perch			907	82			59,335	4,804
Total	250	40	32,437	4,262			994,759	88,257
Fyke nets:								
Carp, Asiatic					7,050	241	19,475	733
Catfish and bullheads							3,020	256
Ciscoes—								
Fresh							7,000	300
Salted					100	4	100	4
Pike							135	13
Pike perch (wall-eyed or yellow pike)					550	55	14,706	1,657
Rock bass					300	12	700	44
Sheepshead or drum					300	9	350	11
Suckers					4,238	85	104,190	3,077
Sunfish					300	12	500	20
Whitefish, common							500	80
Yellow perch					2,900	272	113,323	7,913
Total					15,738	690	263,999	14,108

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued..

Apparatus and species.	St. Clair.		Sanilac.		Tuscola.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:								
Carp, Asiatic					32,878	$1,357	1,052,695	$39,667
Catfish and bullheads							6,938	669
Pike							800	70
Pike perch (wall-eyed or yellow pike)							106,617	10,861
Rock bass							200	8
Sheepshead or drum							500	15
Suckers							109,720	2,927
Sunfish							200	8
Whitefish, common							3,407	441
Yellow perch							25,551	1,808
Total					32,878	1,357	1,306,502	56,474
Lines:								
Catfish					2,000	200	10,000	1,080
Trout, lake	800	$0.80	19,533	$2,095			93,904	9,359
Whitefish, common							76	5
Yellow perch							2,675	200
Total	800	80	19,533	2,095	2,000	200	106,655	10,644
Spears:								
Carp, Asiatic							20,000	1,000
Pike							2,000	200
Pike perch (wall-eyed or yellow pike)							45,560	6,735
Trout, lake							1,250	200
Yellow perch							10,450	1,154
Total							79,260	9,289
Grand total	94,316	7,145	841,915	40,233	170,378	9,547	10,687,424	599,181

WHOLESALE FISHERY TRADE.

In 1917 there were 23 establishments engaged in the wholesale fishery trade of Lake Huron, employing 147 persons, to whom $95,648 were paid in wages. The value of these establishments with their equipment, etc., was $262,507; and the cash capital utilized amounted to $156,100. Compared with 1903 there was an increase of 7 in the number of establishments, 13 in the number of persons engaged, $57,228 in wages paid, $166,007 in the value of the establishments and their equipment, and $60,600 in cash capital.

The following table shows the extent of the wholesale fishery trade of Lake Huron in 1917:

WHOLESALE FISHERY TRADE OF LAKE HURON IN 1917.

Cities and towns.	State.	Number of firms.	Persons engaged.	Wages paid.	Shore and accessory property.	Cash capital.
Bay City and East Tawas	Michigan	6	57	$44,450	$78,197	$51,500
Alpena	do	4	14	7,300	34,300	37,000
Cheboygan and Rogers	do	3	13	11,280	19,100	25,000
St. Ignace and Detour	do	3	8	4,100	8,800	12,000
Sebewaing, Bayport, Harbor Beach, and Port Huron	do	7	55	28,518	122,110	30,600
Total		23	147	95,648	262,507	156,100

FISHERIES OF LAKE ST. CLAIR AND ST. CLAIR RIVER.

The fisheries of Lake St. Clair and St. Clair River in 1917 gave employment to 64 men. The number of boats in use was 64, valued at $2,540. The apparatus of capture included 6 seines, valued at $1,365, and hand lines to the value of $50; and the shore and accessory property was valued at $12,000. The products of the fisheries amounted to 133,330 pounds, valued at $11,852, of which 85,330 pounds, valued at $4,652, were carp taken with seines and 48,000 pounds, valued at $7,200, pike perch caught with hand lines. Because of legal restrictions, the fisheries of the connecting waters between Lakes Erie and Huron are of much less importance than formerly.

FISHERIES, BY COUNTIES.

The following table shows, by counties, the number of persons employed, investment, and quantity and value of the products of the fisheries in 1917:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS BY APPARATUS IN THE FISHERIES OF LAKE ST. CLAIR AND ST. CLAIR RIVER IN 1917, BY COUNTIES.

Items.	Macomb.		St. Clair.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Fishermen	10		54		64	
INVESTMENT.						
Row boats	3	$215	57	$1,425	60	$1,640
Power boats	1	100	3	800	4	900
Seines	1	500	5	865	6	1,365
Hand lines				50		50
Shore and accessory property		2,000		10,000		12,000
Total	5	2,815	65	13,140	70	15,955
PRODUCTS BY APPARATUS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines: Carp	50,757	2,436	34,573	2,216	85,330	4,652
Hand lines: Pike perch (wall-eyed or yellow pike)			48,000	7,200	48,000	7,200
Total	50,757	2,436	82,573	9,416	133,330	11,852

FISHERIES OF LAKE ERIE.

In 1917 Lake Erie ranked first among the Great Lakes in the amount of capital invested and quantity and value of the products and second in the number of persons engaged. The fisheries gave employment to 2,770 persons, of which number 1,761 are credited to Ohio, 446 to Pennsylvania, 305 to New York, and 258 to Michigan. Of the total, 565 men were on fishing and transporting vessels, 1,487 in the shore or boat fisheries, and 718 shoresmen in wholesale establishments and other fishery industries on shore.

The amount of capital invested was $4,332,767, which includes 93 fishing vessels of 1,883 net tons, valued at $508,398, with outfits valued at $101,665; 24 transporting vessels, of 304 net tons, valued at $66,100, with outfits valued at $14,655; 1,016 boats, valued at $206,185; fishing apparatus used on vessels and boats to the value of $1,094,713; shore and accessory property valued at $1,884,165; and cash capital utilized in the fishery industries amounting to $456,886. The investment in New York was $655,062; in Pennsylvania, $919,919; in Ohio, $2,462,822; and in Michigan, $294,964. The apparatus used in the fisheries of Lake Erie included 47,578 gill

nets, valued at $329,632; 5,011 pound nets and trap nets, valued at $681,060; 801 fyke nets, valued at $44,403; 285 seines valued at $38,867; and lines to the value of $751.

The products aggregated 38,710,238 pounds, for which the fishermen received $2,327,299. Of this quantity, New York is credited with 2,426,848 pounds, valued at $167,358; Pennsylvania, with 8,151,241 pounds, valued at $508,382; Ohio, with 26,442,993 pounds, valued at $1,570,230; and Michigan, with 1,689,156 pounds, valued at $81,329. Ciscoes are the principal species represented in the fisheries of Lake Erie in both quantity and value, the catch being 17,160,852 pounds, or 44.33 per cent of the total quantity, valued at $1,046,862, or 44.98 per cent of the total value of all products. The pike perch, including sauger, ranked second, the yield being 7,277,701 pounds, valued at $524,439; and carp, third, with a yield of 6,044,792 pounds, valued at $274,139. Other important species include the common whitefish, 1,755,947 pounds, valued at $232,761; sheepshead, 2,855,551 pounds, valued at $69,502; suckers, 1,035,934 pounds, valued at $36,403; and yellow perch, 959,357 pounds, valued at $69,864. The catch of burbot, the use of which for food the Bureau has been encouraging, amounted to 652,870 pounds, valued at $8,027.

In comparison with 1903 there was an increase of 43, or 1.58 per cent, in the number of persons employed; $2,136,370, or 97.27 per cent, in the capital invested in the fisheries; 15,521,682 pounds, or 66.93 per cent, in the quantity, and $1,547,284, or 198.36 per cent, in the value of the products.

FISHERIES, BY STATES AND COUNTIES.

The following tables show, by States and counties, the extent of the fisheries of Lake Erie in 1917:

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES.

PERSONS ENGAGED.

State and county.	On vessels fishing.	On vessels transporting.	In shore or boat fisheries.	Shoresmen.	Total.
New York:					
Chautauqua	65	.....	61	18	144
Erie	15	.....	37	109	161
Total	80	.....	98	127	305
Pennsylvania: Erie	247	7	47	145	446
Ohio:					
Ashtabula	22	.....	75	30	127
Cuyahoga	63	.....	63	80	206
Erie	77	14	308	133	532
Lake	.....	3	103	33	139
Lorain	21	.....	30	4	55
Lucas	5	13	232	39	289
Ottawa	.....	11	348	42	401
Sandusky	.....	.....	12	.....	12
Total	188	41	1,171	361	1,761
Michigan:					
Monroe	.....	.....	112	10	122
Wayne	2	.....	59	75	[1] 136
Total	2	.....	171	85	258
Grand total	517	48	1,487	718	2,770

[1] Includes persons engaged in the wholesale fish trade of Detroit.

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES—Continued.

INVESTMENT.

State and county.	Vessels fishing.								Vessels transporting.			
	Steam.				Gasoline.				Steam.			
	Number.	Tonnage.	Value.	Value of outfit.	Number.	Tonnage.	Value.	Value of outfit.	Number.	Tonnage.	Value.	Value of outfit.
New York:												
Chautauqua	9	208	$64,000	$9,680	3	21	$5,300	$900	.....	.....	.....	.....
Erie	2	28	15,000	550	1	9	2,200	260	.....	.....	.....	.....
Total	11	236	79,000	10,230	4	30	7,500	1,160	.....	.....	.....	.....
Pennsylvania: Erie	36	812	238,440	43,684	9	93	18,200	3,276	1	23	$3,000	$250
Ohio:												
Ashtabula	3	65	16,800	3,100	1	8	1,500	350	.....	.....	.....	.....
Cuyahoga	10	263	71,175	21,900	.....	.....	.....	.....	.....	.....	.....	.....
Erie	10	250	44,983	11,715	3	31	8,000	1,750	1	43	10,000	3,500
Lorain	3	74	19,000	3,050	1	6	1,000	350	1	17	3,500	150
Lucas	.....	.....	.....	.....	1	10	1,500	1,090	.....	.....	.....	.....
Ottawa	.....	.....	.....	.....	.....	.....	.....	.....	2	28	8,000	1,300
Total	26	652	151,958	39,765	6	55	12,000	3,540	4	88	21,500	4,950
Michigan: Wayne	.....	.....	.....	.....	1	5	1,300	10	.....	.....	.....	.....
Grand total	73	1,700	469,398	93,679	20	183	39,000	7,986	5	111	24,500	5,200

State and county.	Vessels transporting—Contd.				Sail and row boats.		Power boats.		Vessel fisheries.	
	Gasoline.								Gill nets.	
	Number.	Tonnage.	Value.	Value of outfit.	Number.	Value.	Number.	Value.	Number.	Value.
New York:										
Chautauqua	.....	.....	.....	.....	3	$75	22	$16,100	6,286	$45,137
Erie	.....	.....	.....	.....	10	285	9	2,575	1,184	8,640
Total	.....	.....	.....	.....	13	360	31	18,675	7,470	53,777
Pennsylvania: Erie	.....	.....	.....	.....	17	765	14	7,200	20,154	141,273
Ohio:										
Ashtabula	.....	.....	.....	.....	29	2,300	23	13,850	2,192	15,320
Cuyahoga	.....	.....	.....	.....	13	210	24	14,300	3,052	18,312
Erie	4	39	$11,500	$2,750	53	1,040	117	42,465	3,974	34,016
Lake	1	31	4,500	300	39	1,250	37	22,950	.....	.....
Lorain	.....	.....	.....	.....	7	805	4	5,275	766	6,928
Lucas	8	58	15,100	3,880	111	5,890	47	16,025	395	2,900
Ottawa	6	65	10,500	2,525	258	13,225	89	30,635	.....	.....
Sandusky	.....	.....	.....	.....	6	90	.....	.....	.....	.....
Total	19	193	41,600	9,455	516	24,810	341	145,500	10,379	77,476
Michigan:										
Monroe	.....	.....	.....	.....	45	1,120	21	5,090	.....	.....
Wayne	.....	.....	.....	.....	11	315	7	2,350	4	51
Total	.....	.....	.....	.....	56	1,435	28	7,440	4	51
Grand total	19	193	41,600	9,455	602	27,370	414	178,815	38,007	272,577

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES—Continued.

INVESTMENT—Continued.

State and county.	Apparatus of capture, shore fisheries.								Value of lines.	Shore and accessory property.	Cash capital.	Total investment.
	Gill nets.		Pound nets and trap nets.		Fyke nets.		Seines.					
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.				
New York:												
Chautauqua	2,919	$22,376					8	$240	$698	$27,691	$23,000	$215,197
Erie	403	4,075	30	$2,820						309,574	93,886	439,865
Total	3,322	26,451	30	2,820			8	240	698	337,265	116,886	655,062
Pennsylvania:												
Erie	362	2,214	69	16,930					8	366,679	78,000	919,919
Ohio:												
Ashtabula	420	3,172	457	72,945			3	65		103,022	30,000	262,424
Cuyahoga	300	2,000	256	32,625			2	60		171,935	22,500	355,017
Erie	1,962	10,696	1,557	207,980	97	$3,070	32	6,975	30	286,895	41,000	728,365
Lake	20	180	641	86,200			7	290		73,419	25,000	214,089
Lorain	222	325	50	11,900			1	25	15	60,010	2,000	114,333
Lucas			863	127,685	234	20,000	50	3,547		155,780	22,000	375,397
Ottawa	2,932	11,902	1,002	113,800	192	4,090	117	21,110		136,910	52,500	406,497
Sandusky	25	50					7	1,025		5,535		6,700
Total	5,881	28,325	4,826	653,135	523	27,160	219	33,097	45	993,506	195,000	2,462,822
Michigan:												
Monroe	5	25	86	8,175	222	16,718	41	3,575		23,740	5,000	63,443
Wayne	1	40			56	525	17	1,955		162,975	62,000	[a] 231,521
Total	6	65	86	8,175	278	17,243	58	5,530		186,715	67,000	294,964
Grand total	9,571	57,055	5,011	681,060	801	44,403	285	38,867	751	1,884,165	456,886	4,332,767

YIELD, BY SPECIES.

State and county.	Bowfin.		Burbot.		Carp, Asiatic.		Catfish and bullheads.		Ciscoes.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
New York:										
Chatauqua			15,190	$243	27,968	$1,492	695	$81	1,744,054	$115,563
Erie			75	2	1,540	78			299,306	17,522
Total			15,265	245	29,508	1,570	695	81	2,043,360	133,085
Pennsylvania: Erie			148,719	1,541	22,427	718	990	61	7,381,256	447,744
Ohio:										
Ashtabula			69,623	717	7,939	315	2,498	241	630,234	40,406
Cuyahoga			171,929	1,720	19,441	961	5,370	287	3,536,647	209,030
Erie	3,375	$50	129,037	1,656	965,156	43,821	278,109	14,410	2,806,913	169,092
Lake			99,832	1,993	45,851	1,960	11,991	637	62,193	4,048
Lorain			8,635	87	11,289	474	1,025	61	677,616	41,936
Lucas					907,638	36,345	56,781	3,138	9,467	571
Ottawa	1,790	19	9,830	68	2,571,774	127,544	270,748	20,291	12,066	900
Sandusky					60,030	2,700	325	25		
Total	5,165	69	488,886	6,241	4,589,118	214,120	626,847	39,090	7,735,136	465,983
Michigan:										
Monroe					814,666	28,545			1,100	50
Wayne					589,073	29,186				
Total					1,403,739	57,731			1,100	50
Grand total	5,165	69	652,870	8,027	6,044,792	274,139	628,532	39,232	17,160,852	1,046,862

[a] Includes investment in the wholesale fish trade of Detroit.

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

State and county.	Gold-eye or moon-eye.		Pike.		Pike perch.				Rock bass.	
					Blue pike.		Wall-eyed or yellow pike.			
New York:	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Chautauqua	.....	.....	.....	.....	12,489	$1,053	119	$13	.....	.....
Erie	.....	.....	.....	.....	7,155	616	5,679	706	100	$5
Total	.....	.....	.....	.....	19,644	1,669	5,798	719	100	5
Pennsylvania: Erie	.....	.....	1,238	$148	162,878	13,049	3,214	412	.....	.....
Ohio:										
Ashtabula	.....	.....	.....	.....	391,146	31,291	12,987	1,298	.....	.....
Cuyahoga	.....	.....	.....	.....	312,164	14,226	11,773	1,387	.....	.....
Erie	.....	.....	.....	.....	588,177	30,123	325,037	39,428	.....	.....
Lake	.....	.....	.....	.....	187,138	14,915	17,932	1,970	.....	.....
Lorain	.....	.....	.....	.....	54,899	2,882	14,072	1,407	.....	.....
Lucas	10,335	$104	4,428	402	.....	.....	370,843	48,274	.....	.....
Ottawa	.....	.....	.....	.....	341,027	27,086	458,880	46,108	.....	.....
Sandusky	.....	.....	.....	.....	.....	.....	50	5	.....	.....
Total	10,335	104	4,428	402	1,874,551	120,523	1,211,574	139,877	.....	.....
Michigan:										
Monroe	.....	.....	.....	.....	.....	.....	66,870	7,755	.....	.....
Wayne	.....	.....	.....	.....	.....	.....	4,000	400	.....	.....
Total	.....	.....	.....	.....	.....	.....	70,870	8,155	.....	.....
Grand total	10,335	104	5,666	550	2,057,073	135,241	1,291,456	149,163	100	5

State and county.	Sauger.		Sheepshead or drum.		Sturgeon.		Sturgeon caviar.		Suckers.	
New York:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Pounds.*	*Value.*
Chautauqua	77,598	$3,879	55	$3	7,563	$1,720	18	$45	28,604	$1,867
Erie	.....	.....	.....	.....	14,576	3,427	1,000	2,000	18,384	721
Total	77,598	3,879	55	3	22,139	5,147	1,018	2,045	46,988	2,588
Pennsylvania: Erie	33,993	2,245	10,863	309	2,730	348	.....	.....	28,626	824
Ohio:										
Ashtabula	41,656	2,406	18,795	826	34	6	.....	.....	23,991	724
Cuyahoga	102,410	4,162	84,954	1,720	128	13	.....	.....	32,092	1,247
Erie	2,344,241	154,930	1,520,818	40,544	1,623	196	.....	.....	376,827	12,697
Lake	116,415	7,431	68,851	1,799	33	8	.....	.....	32,538	1,038
Lorain	20,362	1,368	33,383	674	500	85	.....	.....	5,865	120
Lucas	198,450	11,937	309,716	6,193	330	69	.....	.....	166,403	4,992
Ottawa	994,047	51,677	804,116	17,314	427	105	.....	.....	219,602	8,510
Sandusky	.....	.....	4,000	120	.....	.....	.....	.....	.....	.....
Total	3,817,581	233,911	2,844,633	69,190	3,075	482	.....	.....	857,318	29,328
Michigan:										
Monroe	.....	.....	.....	.....	440	87	.....	.....	87,502	3,298
Wayne	.....	.....	.....	.....	.....	.....	.....	.....	15,500	365
Total	.....	.....	.....	.....	440	87	.....	.....	103,002	3,663
Grand total	3,929,172	240,035	2,855,551	69,502	28,384	6,064	1,018	2,045	1,035,934	36,403

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

State and county.	Trout, lake.		White bass.		Whitefish, common.		Yellow perch.		Total.	
	Lbs.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Lbs.*	*Value.*	*Pounds.*	*Value.*
New York:										
Chautauqua	734	$91	30	$2	139,225	$13,964	13,486	$1,108	2,067,828	$141,124
Erie	807	65	.....	.....	3,843	546	6,555	546	359,020	26,234
Total	1,541	156	30	2	143,068	14,510	20,041	1,654	2,426,848	167,358
Pennsylvania: Erie	120	13	1,323	118	300,293	37,015	52,571	3,837	8,151,241	508,382
Ohio:										
Ashtabula	.....	.....	7,354	586	95,295	14,128	46,903	3,610	1,348,455	96,554
Cuyahoga	.....	.....	13,307	577	98,046	13,655	33,701	2,072	4,421,962	251,057
Erie	261	32	89,272	6,010	240,253	30,876	349,911	23,002	10,019,010	566,867
Lake	.....	.....	2,040	144	61,795	9,257	27,981	2,238	734,590	47,438
Lorain	.....	.....	5,625	340	38,276	4,311	20,840	1,315	892,387	55,060
Lucas	.....	.....	101,470	6,088	316,137	44,262	141,950	11,375	2,593,948	173,750
Ottawa	.....	.....	65,591	3,340	435,509	61,046	182,729	12,639	6,368,136	376,647
Sandusky	.....	.....	100	7	.....	.....	.....	.....	64,505	2,857
Total	261	32	284,759	17,092	1,285,311	177,535	804,015	56,251	26,442,993	1,570,230
Michigan:										
Monroe	.....	.....	.....	.....	27,275	3,701	79,363	7,680	1,077,216	51,116
Wayne	.....	.....	.....	.....	.....	.....	3,367	262	611,940	30,213
Total	.....	.....	.....	.....	27,275	3,701	82,730	7,942	1,689,156	81,329
Grand total	1,922	201	286,112	17,212	1,755,947	232,761	959,357	69,684	38,710,238	2,327,299

FISHERIES, BY APPARATUS.

The catch of the vessel fisheries amounted to 17,151,247 pounds, valued at $1,057,079, and of the shore or boat fisheries to 21,558,991 pounds, valued at $1,270,220. The catch of the vessel fisheries was all taken with gill nets, the principal species being ciscoes to the amount of 15,497,879 pounds, valued at $949,894; pike perch and sauger, 710,951 pounds, valued at $43,508; common whitefish, 388,614 pounds, valued at $45,914; burbot, 288,142 pounds, valued at $2,881; and yellow perch, 174,837 pounds, valued at $11,883.

The catch with the principal forms of apparatus used in the shore or boat fisheries was as follows: Pound nets and trap nets, 13,319,548 pounds, consisting principally of sauger, pike perch, sheepshead or drum, whitefish, ciscoes, and yellow perch, valued at $840,640; seines, 5,505,997 pounds, mainly carp, valued at $251,409; gill nets, 1,853,294 pounds, mainly ciscoes, valued at $123,293; fyke nets, 857,176 pounds, consisting principally of carp, pike perch, sheepshead, suckers, sauger, and yellow perch, valued at $51,971; and set lines, 20,976 pounds, consisting principally of catfish, bullheads, and sturgeon, valued at $2,807.

The following tables give the products of the vessel and shore fisheries of Lake Erie, by States and counties, in 1917:

YIELD OF GILL-NET VESSEL FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES, AND SPECIES.

Species.	New York.						Pennsylvania.	
	Chautauqua.		Erie.		Total.		Erie.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Burbot	12,542	$126	75	$2	12,617	$128	136,162	$1,384
Carp, Asiatic	348	14	.....	.....	348	14	20,127	611
Ciscoes	1,341,656	90,643	182,476	11,043	1,524,132	101,686	6,965,349	425,556
Pike	.....	.....	.....	.....	.....	.....	60	7
Pike perch:								
Blue pike	4,152	333	1,945	161	6,097	494	134,776	10,777
Wall-eyed or yellow pike	119	13	.....	.....	119	13	381	45
Sauger	77,598	3,879	.....	.....	77,598	3,879	27,993	1,945
Sheepshead or drum	55	3	.....	.....	55	3	88	2
Suckers	3,351	143	.....	.....	3,351	143	7,041	127
Trout, lake	451	38	807	65	1,258	103	102	11
White bass	30	2	.....	.....	30	2	.....	.....
Whitefish, common	102,278	9,987	3,633	524	105,911	10,511	217,046	25,978
Yellow perch	5,191	419	2,690	199	7,881	618	35,502	2,488
Total	1,547,771	105,600	191,626	11,994	1,739,397	117,594	7,544,627	468,931

Species.	Ohio.							
	Ashtabula.		Cuyahoga.		Erie.		Lorain.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Burbot	266	$5	94,129	$940	44,868	$423	100	$1
Carp, Asiatic	45	2	.....	.....	27	1	600	24
Catfish and bullheads	.....	.....	.....	.....	23	3	.....	.....
Ciscoes	518,419	34,358	3,449,050	203,576	2,393,014	144,528	639,363	39,675
Pike perch:								
Blue pike	19,444	1,556	239,671	10,026	21,634	1,765	12,981	1,034
Wall-eyed or yellow pike	50	4	.....	.....	1,444	134	40	5
Sauger	8,383	451	.....	.....	140,496	9,987	16,030	1,088
Sheepshead or drum	770	39	.....	.....	2,796	62	100	3
Suckers	1,391	43	23,864	949	25,554	710	500	8
Trout, lake	.....	.....	.....	.....	261	32	.....	.....
White bass	.....	.....	.....	.....	10	1	100	5
Whitefish, common	50,712	7,607	13,451	1,614	225	26	65	8
Yellow perch	5,875	443	14,000	840	72,558	4,682	16,575	997
Total	605,385	44,508	3,834,165	217,945	2,702,910	162,354	686,454	42,848

Species.	Ohio—Continued.				Michigan.		Grand total.	
	Lucas.		Total.		Wayne.			
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Burbot	.....	.....	139,363	$1,369	.....	.....	288,142	$2,881
Carp, Asiatic	.....	.....	672	27	.....	.....	21,147	652
Catfish and bullheads	252	$21	275	24	.....	.....	275	24
Ciscoes	8,522	515	7,008,398	422,652	.....	.....	15,497,879	949,894
Pike	376	38	376	38	.....	.....	436	45
Pike perch:								
Blue pike	.....	.....	293,730	14,381	.....	.....	434,603	25,652
Wall-eyed or yellow pike	338	45	1,872	188	500	$50	2,872	296
Sauger	2,976	210	167,885	11,736	.....	.....	273,476	17,560
Sheepshead or drum	1,575	32	5,241	136	.....	.....	5,384	141
Suckers	120	3	51,429	1,713	.....	.....	61,821	1,983
Trout, lake	.....	.....	261	32	.....	.....	1,621	146
White bass	.....	.....	110	6	.....	.....	140	8
Whitefish, common	1,204	170	65,657	9,425	.....	.....	388,614	45,914
Yellow perch	21,946	1,775	130,954	8,737	500	40	174,837	11,883
Total	37,309	2,809	7,866,223	470,464	1,000	90	17,151,247	1,057,079

YIELD OF SHORE FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	New York.						Pennsylvania.	
	Chatauqua.		Erie.		Total.		Erie.	
Pound nets and trap nets:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Burbot							7,496	$106
Carp, Asiatic			1,140	$58	1,140	$58	2,300	107
Catfish and bullheads							990	61
Ciscoes			50	3	50	3	301,874	15,722
Pike							1,178	141
Pike perch—								
Blue pike			2,060	173	2,060	173	23,594	1,886
Wall-eyed or yellow pike			5,679	706	5,679	706	2,833	367
Rock bass			100	5	100	5		
Sauger							6,000	300
Sheepshead or drum							10,775	307
Sturgeon			1,876	513	1,876	513	2,175	298
Suckers			13,784	502	13,784	502	21,385	695
Trout, lake							18	2
White bass							1,323	118
Whitefish, common							79,350	10,396
Yellow perch			1,865	147	1,865	147	16,799	1,327
Total			26,554	2,107	26,554	2,107	478,090	31,833
Gill nets:								
Burbot	2,648	$117			2,648	117	5,061	51
Carp, Asiatic			400	20	400	20		
Ciscoes	402,398	24,920	116,780	6,476	519,178	31,396	114,033	6,466
Pike perch—Blue pike	8,337	720	3,150	282	11,487	1,002	4,508	386
Sturgeon			12,700	2,914	12,700	2,914		
Sturgeon caviar			1,000	2,000	1,000	2,000		
Suckers	3,853	208	4,600	219	8,453	427	200	2
Trout, lake	283	53			283	53		
Whitefish, common	36,947	3,977	210	22	37,157	3,999	3,897	641
Yellow perch	8,295	689	2,000	200	10,295	889	270	22
Total	462,761	30,684	140,840	12,133	603,601	42,817	127,969	7,568
Seines:								
Carp, Asiatic	27,620	1,478			27,620	1,478		
Catfish and bullheads	695	81			695	81		
Suckers	21,400	1,516			21,400	1,516		
Total	49,715	3,075			49,715	3,075		
Set lines:								
Sturgeon	7,563	1,720			7,563	1,720	555	50
Sturgeon caviar	18	45			18	45		
Total	7,581	1,765			7,581	1,765	555	50
Grand total	520,057	35,524	167,394	14,240	687,451	49,764	606,614	39,451

YIELD OF SHORE FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Ohio.									
	Ashtabula.		Cuyahoga.		Erie.		Lake.		Lorain.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Pound nets and trap nets:										
Bowfin					3,375	$50				
Burbot	68,777	$702	77,800	$780	83,564	1,225	99,832	$1,993	8,535	$86
Carp, Asiatic	2,329	94	16,841	811	143,971	6,315	7,863	315	8,092	325
Catfish and bullheads	1,377	129	5,370	287	175,744	9,252	11,637	609	825	49
Ciscoes	91,130	4,705	47,397	3,042	105,786	6,187	62,193	4,048	37,600	2,211
Pike perch—										
Blue pike	371,002	29,679	71,128	4,090	564,723	28,256	186,705	14,880	41,818	1,840
Wall-eyed or yellow pike	12,868	1,287	11,773	1,387	310,654	37,820	17,932	1,970	14,032	1,402
Sauger	33,133	1,947	102,410	4,162	2,017,175	132,465	116,415	7,431		
Sheepshead or drum	17,315	751	84,954	1,720	1,313,371	35,443	65,851	1,734	32,901	662
Sturgeon	34	6	128	13	1,623	196	33	8	500	85
Suckers	22,190	666	7,928	289	313,521	10,808	30,110	962	5,215	107
White bass	7,204	574	13,307	577	81,739	5,438	1,857	129	5,425	325
Whitefish, common	36,243	5,270	84,420	12,016	223,470	28,785	60,195	9,017	38,211	4,303
Yellow perch	40,978	3,163	19,651	1,229	236,980	15,660	27,981	2,238	3,587	266
Total	704,580	48,973	543,107	30,403	5,575,696	317,900	688,604	45,334	196,741	11,661
Fyke nets:										
Carp, Asiatic					85,955	6,017				
Catfish and bullheads					34,387	1,585				
Pike perch—Wall-eyed or yellow pike					9,368	1,070				
Sauger					68,772	4,350				
Sheepshead or drum					42,914	1,065				
Suckers					22,435	695				
White bass					5,958	468				
Yellow perch					4,090	260				
Total					273,879	15,510				
Gillnets:										
Burbot	580	10			105	2				
Carp, Asiatic	855	34			255,863	10,885			97	5
Catfish and bullheads	1,025	102			3,375	162				
Ciscoes	20,510	1,333	40,200	2,412	308,113	18,377			653	50
Pike perch—										
Blue pike	600	48	1,365	110	1,563	85	200	16		
Wall-eyed or yellow pike					2,459	287				
Sauger	115	7			116,223	8,027			4,182	268
Sheepshead or drum	360	18			46,248	1,040			232	5
Suckers	275	8	300	9	14,973	473				
White bass					45	3				
Whitefish, common	6,660	999	175	25	16,558	2,065	1,600	240		
Yellow perch	50	4	50	3	35,548	2,347			653	50
Total	31,030	2,563	42,090	2,559	801,073	43,753	1,800	256	5,817	378
Seines:										
Carp, Asiatic	4,710	185	2,600	150	479,240	20,598	37,988	1,645	500	20
Catfish and bullheads	96	10			55,055	2,640	354	28		
Ciscoes	145	10								
Pike perch—										
Blue pike	100	8			157	9	233	19		
Wall-eyed or yellow pike	69	7			312	32				
Sauger	25	1			1,375	86				
Sheepshead or drum	350	18			115,429	2,932	3,000	65		
Suckers	135	7			344	11	2,428	76		
White bass	150	12			1,440	95	183	15		
White fish, common	1,680	252								
Yellow perch					135	8				
Total	7,460	510	2,600	150	653,487	26,411	44,186	1,848	500	20
Set lines:										
Burbot					500	6				
Carp					100	5				
Catfish and bullheads					9,525	768			200	12
Pike perch—										
Blue pike					100	8			100	8
Wall-eyed or yellow pike					800	85				
Sauger					200	15			150	12
Sheepshead or drum					60	2			150	4
Suckers									150	5
White bass					80	5			100	10
Yellow perch					600	45			25	2
Total					11,965	939			875	53
Minor apparatus: Carp, Asiatic									2,000	100
Grand total	743,070	52,046	587,797	33,112	7,316,100	404,513	734,590	47,438	205,933	12,212

YIELD OF SHORE FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Ohio—Continued.							
	Lucas.		Ottawa.		Sandusky.		Total.	
ound nets and trap nets:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfin			410	$5			3,785	$55
Burbot			9,645	64			348,153	4,850
Carp, Asiatic	142,856	$5,715	114,693	5,370			436,645	18,945
Catfish and bullheads	41,111	2,272	123,268	9,332			359,332	21,930
Ciscoes	945	56	10,164	782			355,215	21,031
Gold-eye or moon-eye	875	9					875	9
Pike	4,052	364					4,052	364
Pike perch—								
Blue pike			335,689	26,627			1,571,065	105,372
Wall-eyed or yellow pike	311,345	40,538	438,557	44,068			1,117,161	128,472
Sauger	191,111	11,466	924,319	47,714			3,384,563	205,185
Sheepshead or drum	280,196	5,603	689,501	14,999			2,484,089	60,912
Sturgeon	330	69	427	105			3,075	482
Suckers	146,631	4,400	206,805	8,016			732,400	25,248
White bass	63,935	3,836	46,657	2,392			220,124	13,271
Whitefish, common	314,921	44,088	311,968	44,196			1,069,428	147,675
Yellow perch	118,493	9,479	173,776	12,030			621,446	44,065
Total	1,616,801	127,895	3,385,879	215,700			12,711,408	797,866
ke nets:								
Bowfin			1,380	14			1,380	14
Burbot			40	1			40	1
arp, Asiatic	35,245	1,409	64,598	2,583			185,798	10,009
atfish and bullheads	11,983	670	14,124	1,052			60,494	3,307
old-eye or moon-eye	9,460	95					9,460	95
ike perch—								
Blue pike			3,693	295			3,693	295
Wall-eyed or yellow pike	59,085	7,681	1,094	110			69,547	8,861
auger	4,316	258	3,635	182			76,723	4,790
heepshead or drum	24,175	483	32,305	646			99,394	2,194
uckers	10,405	312	4,755	190			37,595	1,197
hite bass	37,500	2,250	14,985	750			58,443	3,468
hitefish, common	12	4					12	4
ellow perch	1,459	117	720	55			6,269	432
Total	193,640	13,279	141,329	5,878			608,848	34,667
ll nets:								
urbot			25	1			710	13
arp, Asiatic			18,405	910	4,600	$200	279,820	12,034
atfish and bullheads			400	34			4,800	298
iscoes			1,902	118			371,378	22,290
ike perch—								
Blue pike			1,645	164			5,373	423
Wall-eyed or yellow pike			12,971	1,305			15,430	1,592
auger			65,243	3,738			185,763	12,040
heepshead or drum			2,445	62			49,285	1,125
uckers			3,281	113			18,829	603
hite bass			244	13			289	16
hitefish, common			118,652	16,117			143,645	19,446
ellow perch			5,958	383			42,259	2,787
Total			231,171	22,958	4,600	200	1,117,581	72,667
nes:								
urbot			120	2			120	2
arp, Asiatic	729,537	29,221	2,374,078	118,681	55,430	2,500	3,684,083	173,000
atfish and bullheads	3,435	175	132,956	9,873	325	25	192,221	12,751
iscoes							145	10
ike perch—								
Blue pike							490	36
Wall-eyed or yellow pike	75	10	6,258	625	50	5	6,764	679
auger	47	3	850	43			2,297	133
heepshead or drum	3,770	75	79,865	1,607	4,000	120	206,414	4,817
uckers	9,247	277	4,761	191			16,915	562
hite bass	35	2	3,705	185	100	7	5,613	316
hite fish, common			4,889	733			6,569	985
ellow perch	52	4	2,275	171			2,462	183
Total	746,198	29,767	2,609,757	132,111	59,905	2,657	4,124,093	193,474

YIELD OF SHORE FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Ohio—Continued.							
	Lucas.		Ottawa.		Sandusky.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Set lines:								
Burbot							500	$6
Carp							100	5
Catfish and bullheads							9,725	780
Pike perch—								
Blue pike							200	16
Wall-eyed or yellow pike							800	85
Sauger							350	27
Sheepshead or drum							210	6
Suckers							150	5
White bass							180	15
Yellow perch							625	47
Total							12,840	992
Minor apparatus:								
Carp, Asiatic							2,000	100
Grand total	2,556,639	$170,941	6,358,136	$376,647	64,505	$2,857	18,576,770	1,099,766

Apparatus and species.	Michigan.						Grand total.	
	Monroe.		Wayne.		Total.			
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Pound nets and trap nets:								
Bowfin							3,785	$55
Burbot							355,649	4,956
Carp, Asiatic	10,000	$300			10,000	$300	450,085	19,410
Catfish and bullheads							360,322	21,991
Ciscoes	1,100	50			1,100	50	658,239	36,806
Gold-eye or moon-eye							875	9
Pike							5,230	505
Pike perch—								
Blue pike							1,596,719	107,431
Wall-eyed or yellow pike	27,432	3,226			27,432	3,226	1,153,105	132,771
Rock bass							100	5
Sauger							3,390,563	205,485
Sheepshead or drum							2,494,864	61,219
Sturgeon	400	80			400	80	7,526	1,373
Suckers	25,143	545			25,143	545	792,712	26,990
Trout, lake							18	2
White bass							221,447	13,389
Whitefish, common	27,275	3,701			27,275	3,701	1,176,053	161,772
Yellow perch	12,146	932			12,146	932	652,256	46,471
Total	103,496	8,834			103,496	8,834	13,319,548	840,640
Fyke nets:								
Bowfin							1,380	14
Burbot							40	1
Carp, Asiatic	46,815	1,821	39,500	$1,533	86,315	3,354	272,113	$13,363
Catfish and bullheads							60,494	3,307
Gold-eye or moon-eye							9,460	95
Pike perch—								
Blue pike							3,693	295
Wall-eyed or yellow pike	36,558	4,241	2,800	280	39,358	4,521	108,905	13,382
Sauger							76,723	4,790
Sheepshead or drum							99,394	2,194
Sturgeon	15	2			15	2	15	2
Suckers	45,569	2,434	10,000	245	55,569	2,679	93,164	3,876
White bass							58,443	3,468
Whitefish, common							12	4
Yellow perch	65,147	6,602	1,924	146	67,071	6,748	73,340	7,180
Total	194,104	15,100	54,224	2,204	248,328	17,304	857,176	51,971

YIELD OF SHORE FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan.						Grand total.	
	Monroe.		Wayne.		Total.			
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Gill nets:								
Burbot							8,419	$181
Carp, Asiatic	850	$38			850	$38	281,070	12,092
Catfish and bullheads							4,800	298
Ciscoes							1,004,589	60,152
Pike perch—								
Blue pike							21,368	1,811
Wall-eyed or yellow pike	150	15	700	$70	850	85	16,280	1,677
Sauger							185,763	12,040
Sheepshead or drum							49,285	1,125
Sturgeon							12,700	2,914
Sturgeon caviar							1,000	2,000
Suckers	800	16	500	10	1,300	26	28,782	1,058
Trout, lake							283	53
White bass							289	16
Whitefish, common							184,699	24,086
Yellow perch	200	16	943	76	1,143	92	53,967	3,790
Total	2,000	85	2,143	156	4,143	241	1,853,294	123,293
Seines:								
Burbot							120	2
Carp, Asiatic	757,001	26,386	549,573	27,653	1,306,574	54,039	5,018,277	228,517
Catfish and bullheads							192,916	12,832
Ciscoes							145	10
Pike perch—								
Blue pike							490	36
Wall-eyed or yellow pike	2,730	273			2,730	273	9,494	952
Sauger							2,297	133
Sheepshead or drum							206,413	4,817
Sturgeon	25	5			25	5	25	5
Suckers	15,990	303	5,000	110	20,990	413	59,305	2,491
White bass							5,613	316
White fish, common							6,569	985
Yellow perch	1,870	130			1,870	130	4,332	313
Total	777,616	27,097	554,573	27,763	1,332,189	54,860	5,505,997	251,409
Set lines:								
Burbot							500	6
Carp							100	5
Catfish and bullheads							9,725	780
Pike perch—								
Blue pike							200	16
Wall-eyed or yellow pike							800	85
Sauger							350	27
Sheepshead or drum							210	6
Sturgeon							8,118	1,770
Sturgeon caviar							18	45
Suckers							150	5
White bass							180	15
Yellow perch							625	47
Total							20,976	2,807
Minor apparatus:								
Carp, Asiatic							2,000	100
Grand total	1,077,216	51,116	610,940	30,123	1,688,156	83,239	21,558,991	1,270,220

WHOLESALE FISHERY TRADE.

There were 70 establishments engaged in the wholesale fishery trade of Lake Erie in 1917, employing 728 persons, to whom $565,053 were paid in wages, representing a total investment of $1,559,788 and utilizing cash capital to the amount of $456,886. Compared with 1903, there was an increase of 38 in the number of establishments, 230 in the number of persons employed, $296,515 in wages paid, and $746,804 in the investment, including cash or working capital.

The following table shows the extent of the wholesale fishery trade of Lake Erie in 1917:

WHOLESALE FISHERY TRADE OF LAKE ERIE IN 1917.

Cities.	State.	Number of firms.	Persons engaged.	Wages paid.	Shore and accessory property.	Cash capital.
Buffalo	New York	9	109	$78,913	$308,724	$93,886
Dunkirk and Westfield	do	3	28	16,472	24,641	23,000
Erie	Pennsylvania	7	145	90,086	324,529	78,000
Cleveland	Ohio	7	80	69,839	151,610	22,500
Toledo	do	4	39	31,842	126,970	22,000
Port Clinton	do	5	42	29,719	84,138	52,500
Sandusky	do	5	82	104,151	156,500	23,000
Grand River	do	4	33	19,251	12,019	25,000
Huron, Vermilion, and Lorain	do	7	55	32,360	108,200	20,000
Ashtabula	do	3	30	35,798	94,357	30,000
Detroit and Monroe	Michigan	16	85	56,622	168,100	67,000
Total		70	728	565,053	1,559,788	456,886

FISHERIES OF LAKE ONTARIO AND CERTAIN TRIBUTARIES.

FISHERIES OF LAKE ONTARIO.

In 1917 the fishing industry of Lake Ontario gave employment to 289 persons, 4 of whom were on fishing and transporting vessels, 274 in the shore or boat fisheries, and the remainder employed as shoresmen.

The investment amounted to $132,653, which included 2 vessels of 18 net tons, valued at $2,585, including outfits; 196 boats, valued at $18,900; fishery apparatus used on vessels and boats, valued at $41,243; shore and accessory property to the value of $49,925; and cash capital amounting to $20,000. The apparatus included 165 gill nets, valued at $15,175; 353 trap nets, valued at $21,460; 334 fyke nets, valued at $4,374; and seines, set lines, etc., to the value of $234.

The products of the fisheries amounted to 915,616 pounds, valued at $84,113. The catch of the more important species was made up of 424,744 pounds of ciscoes, value $38,115; common whitefish, 88,347 pounds, value $11,720; suckers, 71,826 pounds, value $5,350; burbot, 61,760 pounds, value $2,388; catfish and bullheads, 45,124 pounds, value $5,719; eels, 41,424 pounds, value $3,249; and pike perch, 35,688 pounds, value $4,083.

Compared with 1903 there was a decrease of 16, or 5.25 per cent, in the number of persons employed and of 159,832 pounds, or 14.86 per cent, in the quantity of the products, and an increase of $36,374, or 76.19 per cent, in the value of the products and of $38,274, or 40.55 per cent, in the investment.

FISHERIES, BY COUNTIES.—The following table shows, by counties, the extent of the fisheries of Lake Ontario in 1917:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS, BY SPECIES, IN THE FISHERIES OF LAKE ONTARIO IN 1917, BY COUNTIES.

Items.	Cayuga.		Jefferson.		Monroe.		Niagara.	
PERSONS ENGAGED.								
	Number	*Value.*	*Number*	*Value.*	*Number*	*Value.*	*Number*	*Value.*
In shore or boat fisheries	29	.....	89	.....	23	.....	31	.....
Shoresmen	.....	.....	11	.....	.....	.....	.....	.....
Total	29	.....	100	.....	23	.....	31	.....
INVESTMENT.								
Rowboats	24	$480	30	$660	7	$195	7	$170
Power boats	1	1,500	27	5,896	5	625	13	2,175
Apparatus, shore fisheries:								
Trap nets	46	3,800	244	15,390	.....	.....	.....	.....
Gill nets	4	270	40	5,645	16	915	30	1,680
Fyke nets	.....	.....	240	3,459	.....	.....	.....	.....
Seines	.....	.....	.....	.....	.....	.....	1	50
Set lines	.....	.....	.....	.....	.....	.....	.....	44
Scap nets	.....	.....	18	.....	9	.....	.....	.....
Shore and accessory property	.....	650	2	6	.....	.....	.....	.....
Cash capital	.....	.....	.....	41,215	.....	425	.....	2,000
	.....	.....	.....	20,000	.....	.....	.....	.....
Total	.....	6,700	.....	92,283	.....	2,169	.....	6,119
PRODUCTS.								
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Burbot	.....	.....	2,163	44	6,185	421	.....	.....
Carp, Asiatic	244	19	9,043	483	.....	.....	6,120	325
Catfish and bullheads	1,300	224	32,514	4,135	377	34	155	19
Ciscoes:								
Fresh	96,680	7,321	59,271	4,066	5,622	477	30,222	1,755
Salted	.....	.....	6,909	801	.....	.....	.....	.....
Eels	134	9	40,393	3,153	.....	.....	.....	.....
Pike	.....	.....	15,330	2,029	93	12	20	3
Pike perch:								
Blue pike	.....	.....	12,798	1,650	2,254	207	14,177	1,293
Wall-eyed or yellow perch	.....	.....	1,674	322	546	66	60	12
Rock bass	.....	.....	7,291	443	162	13	.....	.....
Sheepshead or drum	.....	.....	300	23	.....	.....	.....	.....
Suckers	.....	.....	59,261	4,516	2,985	161	381	11
Sunfish	2,701	123	12,972	713	.....	.....	.....	.....
Sturgeon	.....	.....	3,872	888	370	60	2,906	669
Sturgeon caviar	.....	.....	.....	.....	.....	.....	6	18
Trout, lake	.....	.....	10,600	1,287	366	65	222	34
Whitefish, common	.....	.....	17,117	2,011	7,522	1,082	31,733	3,771
Yellow perch	500	50	27,037	1,434	615	68	160	14
Total	101,559	7,746	318,545	27,998	27,097	2,666	86,160	7,924

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS, BY SPECIES, IN THE FISHERIES OF LAKE ONTARIO IN 1917, BY COUNTIES—Continued.

Items.	Orleans.		Oswego.		Wayne.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels, fishing					2		2	
On vessels, transporting					2		2	
In shore or boat fisheries	8		46		48		274	
Shoresmen							11	
Total	8		46		52		289	
INVESTMENT.								
Vessles fishing, gasoline					1	$1,200	1	$1,200
Tonnage					8		8	
Outfit						20		20
Vessels transporting, gasoline					1	1,300	1	1,300
Tonnage					10		10	
Outfit						65		65
Rowboats	3	$150	24	$900	30	465	125	3,020
Power boats	1	300	13	2,390	11	3,000	71	15,880
Apparatus, vessel fisheries: Gill nets					3	40	3	40
Apparatus, shore fisheries:								
Trap nets					63	2,270	353	21,460
Gill nets	7	450	37	3,045	28	3,130	162	15,135
Fyke nets			70	675	24	240	334	4,374
Seines					2	65	3	115
Set lines		22		10		10		113
Scap nets							2	6
Shore and accessory property		300		3,635		1,700		49,925
Cash capital								20,000
Total		1,222		10,655		13,505		132,653
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfin			2,341	$105	4,705	$245	7,046	$350
Burbot			4,247	297	49,165	1,626	61,760	2,388
Carp, Asiatic			87	5	10,088	519	25,582	1,351
Catfish and bullheads			2,131	320	8,649	987	45,124	5,719
Ciscoes:								
Fresh	2,390	$490	70,229	10,269	151,421	12,686	415,835	37,064
Salted			2,000	250			8,909	1,051
Eels	227	25	527	47	143	15	41,424	3,249
Pike	50	8	257	40	71	1	15,821	2,093
Pike perch:								
Blue pike	425	78	1,551	203	1,933	202	33,138	3,633
Wall-eyed or yellow perch	100	20	100	16	70	14	2,550	450
Rock bass					22	2	7,475	458
Sheepshead or drum							300	23
Suckers	1,350	150	5,921	367	1,928	145	71,826	5,350
Sunfish			2,690	181	5,522	310	23,885	1,327
Sturgeon	140	43	2,540	670	1,020	375	10,848	2,705
Sturgeon caviar			125	400			131	418
Trout, lake	300	42	12,146	1,388	60	2	23,694	2,818
Whitefish, common	3,500	700	20,154	2,885	8,321	1,271	88,347	11,720
Yellow perch	48	8	246	36	3,315	336	31,921	1,946
Total	8,530	1,564	127,292	17,479	246,433	18,736	915,616	84,113

FISHERIES, BY APPARATUS.—The catch of the vessel fisheries amounted to 4,930 pounds, valued at $413, consisting of 4,500 pounds of ciscoes, value $360; 200 pounds of whitefish, value $30; and 230 pounds of yellow perch, value $23, all of which was taken with gill nets by a vessel in Wayne County.

The catch taken by boats amounted to 910,686 pounds, valued at $83,700, of which gill nets took 402,170 pounds, value $43,112; trap nets, 359,298 pounds, value $28,826; fyke nets, 89,312 pounds, value $8,823; seines, 54,386 pounds, value $1,704; lines, 4,688 pounds, value $1,159; and scap or dip nets, 832 pounds, value $76. The principal species taken with trap nets were catfish and bullheads, ciscoes, eels, suckers, sunfish, and yellow perch; with gill nets, burbot, ciscoes, pike perch, suckers, lake trout, and whitefish; with fyke nets, catfish and bullheads, eels, pike, suckers, sunfish, and yellow perch; and with

lines, sturgeon and eels. The catch of the seines consisted of burbot carp, catfish, and bullheads; and of scap or dip nets, suckers.

The following table gives the products of the shore fisheries, by counties, in 1917:

YIELD OF SHORE FISHERIES OF LAKE ONTARIO IN 1917, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Cayuga.		Jefferson.		Monroe.		Niagara.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Trap nets:								
Burbot			1,663	$34				
Carp, Asiatic	244	$19	8,167	423				
Catfish and bullheads	1,300	224	19,252	2,274				
Ciscoes—								
Fresh	94,360	7,189	15,858	1,133				
Salted			150	18				
Eels	134	9	29,823	2,165				
Pike			9,929	1,289				
Pike perch—								
Blue pike			10,585	1,463				
Wall-eyed or yellow pike			1,611	313				
Rock bass			7,031	384				
Sheepshead or drum			300	23				
Suckers			26,633	1,757				
Sunfish	2,701	123	9,741	467				
Sturgeon			177	31				
Trout, lake			1,006	129				
Whitefish, common			2,757	287				
Yellow perch			16,760	913				
Total	98,739	7,564	161,443	13,103				
Gill nets:								
Burbot			500	10	6,185	$421		
Carp, Asiatic							100	$8
Catfish and bullheads					377	34		
Ciscoes—								
Fresh	2,320	132	43,413	2,933	5,622	477	30,217	1,754
Salted			6,759	783				
Pike			37	7	93	12	20	3
Pike perch—								
Blue pike			2,213	187	2,254	207	14,177	1,293
Wall-eyed or yellow pike			63	9	546	66	60	12
Rock bass					162	13		
Sturgeon			3,377	758	145	20	315	60
Suckers			379	22	2,985	161	381	11
Trout, lake			9,594	1,158	366	65	222	34
Whitefish, common			14,360	1,724	7,522	1,082	31,733	3,771
Yellow perch	500	50	1,476	74	615	68	160	14
Total	2,820	182	82,171	7,665	26,872	2,626	77,385	6,960
Fyke nets:								
Carp, Asiatic			876	60				
Catfish and bullheads			13,262	1,861				
Eels			10,337	972				
Pike			5,364	733				
Rock bass			260	59				
Suckers			31,417	2,661				
Sunfish			3,231	246				
Yellow perch			8,801	447				
Total			73,548	7,039				
Seines:								
Carp, Asiatic							6,020	317
Catfish and bullheads							130	16
Total							6,150	333
Lines:								
Catfish and bullheads							23	3
Ciscoes							5	1
Eels			233	16				
Sturgeon			318	99	225	40	2,591	609
Sturgeon caviar							6	18
Total			551	115	225	40	2,625	631
Scap nets: Suckers			832	76				
Grand total	101,559	7,746	318,545	27,998	27,097	2,666	86,160	7,924

YIELD OF SHORE FISHERIES OF LAKE ONTARIO IN 1917, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Orleans.		Oswego.		Wayne.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Trap nets:								
Bowfin	.....	.....	.....	.....	3,705	$197	3,705	$197
Burbot	.....	.....	.....	.....	.....	.....	1,663	34
Carp, Asiatic	.....	.....	.....	.....	2,039	159	10,450	601
Catfish and bullheads	.....	.....	.....	.....	6,513	707	27,065	3,205
Ciscoes—								
Fresh	.....	.....	.....	.....	74,944	5,858	185,162	14,180
Salted	.....	.....	.....	.....	.....	.....	150	18
Eels	.....	.....	.....	.....	143	15	30,100	2,189
Pike	.....	.....	.....	.....	.....	.....	9,929	1,289
Pike perch—								
Blue pike	.....	.....	.....	.....	.....	.....	10,585	1,463
Wall-eyed or yellow pike	.....	.....	.....	.....	.....	.....	1,611	313
Rock bass	.....	.....	.....	.....	22	2	7,053	386
Sheepshead or drum	.....	.....	.....	.....	.....	.....	300	23
Suckers	.....	.....	.....	.....	540	39	27,173	1,796
Sunfish	.....	.....	.....	.....	4,749	265	17,191	855
Sturgeon	.....	.....	.....	.....	400	120	577	151
Trout, lake	.....	.....	.....	.....	60	2	1,066	131
Whitefish, common	.....	.....	.....	.....	3,926	589	6,683	876
Yellow perch	.....	.....	.....	.....	2,075	206	18,835	1,110
Total	.....	.....	.....	.....	99,116	8,159	359,298	28,826
Gill nets:								
Burbot	.....	.....	4,247	$297	9,165	626	20,097	1,354
Carp, Asiatic	.....	.....	.....	.....	.....	.....	100	8
Catfish and bullheads	.....	.....	.....	.....	.....	.....	377	34
Ciscoes—								
Fresh	2,390	$490	65,796	9,486	71,977	6,468	221,735	21,740
Salted	.....	.....	2,000	250	.....	.....	8,759	1,033
Eels	.....	.....	137	15	.....	.....	137	15
Pike	50	8	257	40	71	1	528	71
Pike perch—								
Blue pike	425	78	1,551	203	1,933	202	22,553	2,170
Wall-eyed or yellow pike	100	20	100	16	70	14	939	137
Rock bass	.....	.....	.....	.....	.....	.....	162	13
Sturgeon	.....	.....	2,240	620	.....	.....	6,077	1,458
Sturgeon caviar	.....	.....	125	400	.....	.....	125	400
Suckers	1,350	150	5,721	356	1,358	102	12,174	802
Sunfish	.....	.....	260	19	.....	.....	260	19
Trout, lake	300	42	12,146	1,388	.....	.....	22,628	2,687
Whitefish, common	3,500	700	20,154	2,285	4,195	652	81,464	10,814
Yellow perch	48	8	246	36	1,010	107	4,055	357
Total	8,163	1,496	114,980	16,011	89,779	8,172	402,170	43,112
Fyke nets:								
Bowfin	.....	.....	2,341	105	1,000	48	3,341	153
Carp, Asiatic	.....	.....	87	5	363	33	1,326	98
Catfish and bullheads	.....	.....	2,131	320	1,586	236	16,979	2,417
Ciscoes	.....	.....	4,433	783	.....	.....	4,433	783
Eels	.....	.....	390	32	.....	.....	10,727	1,004
Pike	.....	.....	.....	.....	.....	.....	5,364	733
Rock bass	.....	.....	.....	.....	.....	.....	260	59
Suckers	.....	.....	200	11	30	4	31,647	2,676
Sunfish	.....	.....	2,430	162	773	45	6,434	453
Yellow perch	.....	.....	.....	.....	.....	.....	8,801	447
Total	.....	.....	12,012	1,418	3,752	366	89,312	8,823
Seines:								
Burbot	.....	.....	.....	.....	40,000	1,000	40,000	1,000
Carp, Asiatic	.....	.....	.....	.....	7,686	327	13,706	644
Catfish and bullheads	.....	.....	.....	.....	550	44	680	60
Total	.....	.....	.....	.....	48,236	1,371	54,386	1,704
Lines:								
Catfish and bullheads	.....	.....	.....	.....	.....	.....	23	3
Ciscoes	.....	.....	.....	.....	.....	.....	5	1
Eels	227	25	.....	.....	.....	.....	460	41
Sturgeon	140	43	300	50	620	255	4,194	1,096
Sturgeon caviar	.....	.....	.....	.....	.....	.....	6	18
Total	367	68	300	50	620	255	4,688	1,159
Scap nets: Suckers	.....	.....	.....	.....	.....	.....	832	76
Grand total	8,530	1,564	127,292	17,479	241,503	18,323	910,686	83,700

FISHERIES OF ST. LAWRENCE RIVER.

The fisheries of the St. Lawrence River gave employment to 29 persons. The number of power and rowboats used was 26, valued at $1,180; the apparatus of capture used was set lines, valued at $620; and the investment amounted to $1,810. The products of the fisheries amounted to 22,169 pounds, valued at $5,324, of which 21,959 pounds were sturgeon, valued at $5,091, and 78 pounds sturgeon caviar, valued at $214.

FISHERIES, BY COUNTIES.—The following table shows, by counties, the persons, investment, and quantity and value of the products of the fisheries of the St. Lawrence in 1917:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS, BY SET LINES, IN THE FISHERIES OF THE ST. LAWRENCE RIVER IN 1917, BY COUNTIES.

Items.	Jefferson.		St. Lawrence.		Total.	
PERSONS ENGAGED.						
Fishermen	*Number.* 9	*Value.*	*Number.* 20	*Value.*	*Number.* 29	*Value.*
INVESTMENT.						
Rowboats			20	$480	20	$480
Power boats	6	$700			6	700
Set lines		50		570		620
Shore and accessory property		10				10
Total	6	760	20	1,050	26	1,810
PRODUCTS BY SET LINES.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Eels			12	$3	12	$3
Pike			30	5	30	5
Pike perch (wall-eyed or yellow pike)			40	8	40	8
Sturgeon	3,867	$888	18,092	4,203	21,959	5,091
Sturgeon caviar	40	100	38	114	78	214
Yellow perch			50	3	50	3
Total	3,907	988	18,262	4,336	22,169	5,324

FISHERIES OF NIAGARA RIVER.

The fisheries of Niagara River are conducted in Erie and Niagara Counties, N. Y., and in 1917 gave employment to 60 persons. The number of power and rowboats used was 46, valued at $1,815; the apparatus of capture included 9 seines, valued at $495; 7 fishing machines, valued at $795; and set lines to the value of $441; and the value of the shore and accessory property was $300. The total investment amounted to $3,846. The yield of the fisheries of Niagara River was 116,603 pounds, valued at $11,420, of which 81,819 pounds, valued at $7,559, were taken with seines; 29,982 pounds, valued at $2,806, with fishing machines; and 4,802 pounds, valued at $1,055, with set lines. The principal species taken were: Ciscoes, 44,528 pounds, valued at $2,927; sturgeon, including caviar, 18,669 pounds, valued at $4,861; suckers, 17,285 pounds, valued at $967; carp, 15,890 pounds, valued at $822; and pike perch, 12,592 pounds, valued at $1,151.

FISHERIES, BY COUNTIES.—The table following shows, by counties, the number of persons employed, investment, and quantity and value of the products of the fisheries of the Niagara River in 1917.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS, BY APPARATUS, IN THE FISHERIES OF THE NIAGARA RIVER IN 1917, BY COUNTIES.

Items.	Erie.		Niagara.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Fishermen	11		49		60	
INVESTMENT.						
Rowboats	11	$530	33	$735	44	$1,265
Power boats			2	550	2	550
Seines			9	495	9	495
Fishing machines			7	795	7	795
Set lines		234		207		441
Shore and accessory property				300		300
Total	11	764	51	3,082	62	3,846
PRODUCTS, BY APPARATUS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:						
Carp, Asiatic			14,521	$744	14,521	$744
Catfish and bullheads			2,139	164	2,139	164
Ciscoes			32,860	2,059	32,860	2,059
Eels			436	64	436	64
Pike perch (blue pike)			7,980	742	7,980	742
Sturgeon	11,092	$2,755			11,092	2,755
Sturgeon caviar	160	320			160	320
Suckers			12,631	711	12,631	711
Total	11,252	3,075	70,567	4,484	81,819	7,559
Fishing machines:						
Carp, Asiatic			1,369	78	1,369	78
Catfish and bullheads			655	51	655	51
Ciscoes			11,668	868	11,668	868
Eels			1,109	83	1,109	83
Pike			340	51	340	51
Pike perch (blue pike)			4,603	408	4,603	408
Rock bass			50	5	50	5
Sturgeon			2,585	461	2,585	461
Sturgeon caviar			175	280	175	280
Suckers			4,560	251	4,560	251
Yellow perch			2,868	270	2,868	270
Total			29,982	2,806	29,982	2,806
Set lines:						
Catfish and bullheads			16	1	16	1
Eels			26	3	26	3
Pike perch (blue pike)			9	1	9	1
Sturgeon			4,657	1,045	4,657	1,045
Suckers			94	5	94	5
Total			4,802	1,055	4,802	1,055
Grand total	11,252	3,075	105,351	8,345	116,603	11,420

FISHERIES CONSIDERED BY STATES.

The States bordering on the Great Lakes and interested in the fisheries are: Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, and New York. Of these, Michigan borders on Lakes Superior, Michigan, Huron, St. Clair, and Erie; Wisconsin, on Lakes Superior and Michigan; and New York on Lakes Erie and Ontario. It is therefore of importance to consider these statistics by States, as well as by lakes.

In 1917 there were 9,221 persons engaged in the fisheries of the Great Lakes, of whom 3,183 are credited to Michigan, 1,909 to Wisconsin, 1,761 to Ohio, 683 to New York, 608 to Minnesota, 564 to Illinois, 446 to Pennsylvania, and 67 to Indiana. In Michigan the investment amounted to $2,937,086; Ohio, $2,462,832; Wisconsin, $1,668,529; Illinois, $1,265,664; Pennsylvania, $919,919; New York, $793,371; Minnesota, $428,443; and Indiana, $79,825. On the basis of the value of the products the States ranked as follows: Michigan, 29,737,355 pounds, valued at $2,035,889; Ohio, 26,442,993 pounds,

valued at $1,570,230; Wisconsin, 24,042,103 pounds, valued at $1,320,162; Pennsylvania, 8,151,241 pounds, valued at $508,382; Minnesota, 10,041,846 pounds, valued at $429,667; New York, 3,481,236 pounds, valued at $268,215; Illinois, 1,356,294 pounds, valued at $87,375; and Indiana, 1,016,155 pounds, valued at $75,099.

Separate statistics, by lakes, are given for States whose fisheries are conducted in more than one lake.

The following table shows, by States, the number of persons engaged, apparatus and capital employed, and products of the fisheries of the Great Lakes in 1917:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS IN THE FISHERIES OF THE GREAT LAKES IN 1917, BY STATES.

Items.	New York.		Pennsylvania.		Ohio.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On fishing vessels	82		247		188	
On vessels transporting	2		7		41	
In shore fisheries	451		47		1,171	
Shoresmen	148		145		361	
Total	683		446		1,761	
INVESTMENT.						
Vessels fishing:						
Steam	11	$79,000	36	$238,440	26	$151,958
Tonnage	236		812		652	
Outfit		10,230		43,684		39,765
Gasoline	5	8,700	9	18,200	6	12,000
Tonnage	38		93		55	
Outfit		1,180		3,276		3,540
Vessels transporting:						
Steam			1	3,000	4	21,500
Tonnage			23		88	
Outfit				250		4,950
Gasoline	1	1,300			19	41,600
Tonnage	10				193	
Outfit		65				9,455
Sail and row boats	202	5,125	17	765	516	24,810
Power boats	110	35,805	14	7,200	341	145,500
Apparatus, vessel fisheries: Gill nets	7,473	53,817	20,154	141,273	10,379	77,476
Apparatus, shore fisheries:						
Pound nets and trap nets	383	24,280	69	16,930	4,826	653,135
Gill nets	3,484	41,586	362	2,214	5,881	28,325
Fyke nets	334	4,374			523	27,160
Seines	20	850			219	33,097
Lines		1,872		8		45
Fishing machines	7	795				
Other apparatus		6				10
Shore and accessory property		387,500		366,679		993,506
Cash capital		136,886		78,000		195,000
Total		793,371		919,919		2,462,832
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfin	7,046	$350			5,165	$69
Burbot	77,025	2,633	148,719	$1,541	488,886	6,241
Carp, Asiatic	70,980	3,743	22,427	718	4,589,118	214,120
Catfish and bullheads	48,629	6,016	990	61	626,847	39,090
Ciscoes:						
Fresh	2,503,723	173,076	7,381,256	447,744	7,735,136	465,983
Salted	8,909	1,051				
Eels	43,007	3,402				
Gold-eye, or moon-eye					10,335	104
Pike	16,191	2,149	1,238	148	4,428	402
Pike perch:						
Blue pike	65,374	6,453	162,878	13,049	1,874,551	120,523
Wall-eyed or yellow pike, fresh	8,388	1,177	3,214	412	1,211,574	139,877
Rock bass	7,625	468				
Sauger	77,598	3,879	33,993	2,245	3,817,581	233,911
Sheepshead or drum	355	26	10,863	309	2,844,633	69,190
Sturgeon	73,280	17,210	2,730	348	3,075	482
Sturgeon caviar	1,562	3,271				
Suckers, fresh	136,099	8,905	28,626	824	857,318	29,328
Sunfish	23,885	1,327				
Trout, lake, fresh	25,235	2,974	120	13	261	32
White bass	30	2	1,323	118	284,759	17,092
Whitefish, common, fresh	231,415	26,230	300,293	37,015	1,285,311	177,535
Yellow perch, fresh	54,880	3,873	52,571	3,837	804,015	56,251
Total	3,481,236	268,215	8,151,241	508,382	26,442,993	1,570,230

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS IN THE FISHERIES OF THE GREAT LAKES IN 1917, BY STATES—Continued.

Items.	Indiana.		Michigan.		Illinois.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	21		629		55	
On vessels transporting			65			
In shore fisheries	43		2,117		27	
Shoresmen	3		372		482	
Total	67		3,183		564	
INVESTMENT.						
Vessels fishing:						
Steam	2	$11,000	59	$203,450		
Tonnage	51		1,150			
Outfit		3,610		80,690		
Gasoline	1	1,200	93	91,250	13	$30,700
Tonnage	8		800		128	
Outfit		850		33,905		7,195
Vessels transporting:						
Steam			2	7,000		
Tonnage			24			
Outfit				500		
Gasoline			37	50,300		
Tonnage			365			
Outfit				7,215		
Sail and rowboats	23	610	741	17,153	9	195
Power boats	14	3,050	569	201,390	4	2,800
Apparatus vessel fisheries:						
Gill nets	1,695	35,940	37,584	356,624	2,355	20,225
Lines		200		11,143		
Apparatus, shore fisheries:						
Pound nets and trap nets	18	7,600	2,755	347,811	8	3,000
Gill nets	369	7,130	13,849	115,010	190	1,645
Fyke nets			795	35,773		
Seines			147	15,330		
Lines		60		4,829		35
Other apparatus				1,520		
Shore and accessory property		7,575		1,001,093		1,087,369
Cash capital		1,000		355,100		112,500
Total		79,825		2,937,086		1,265,664
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfin			2,875	$174		
Burbot	3,139	$130	29,240	673	58	$1
Carp, Asiatic	1,150	46	2,636,159	105,929		
Catfish and bullheads	120	17	33,329	3,295		
Ciscoes:						
Fresh	813,830	52,713	7,361,794	333,736	1,015,818	54,140
Salted			2,621,018	118,554		
Smoked			3,000	120		
Muskellunge			145	15		
Pike	225	30	21,174	2,031		
Pike perch:						
Walle-yed or yellow pike, fresh	1,400	240	1,207,407	147,254		
Walle-yed or yellow pike, salted			30	3		
Rock bass			4,283	208		
Sheepshead or drum	750	30	28,146	1,027		
Sturgeon	2,396	680	13,735	2,987		
Sturgeon caviar	65	115	508	1,284		
Suckres:						
Fresh	3,190	132	3,049,569	123,107	5,265	200
Salted			3,815	144		
Sunfish			1,650	68		
Trout, lake:						
Fresh	123,410	13,226	7,188,617	647,208	168,640	18,112
Salted			9,203	822		
Trout, steelhead	21,250	3,232	700	117		
White bass			600	50		
Whitefish:						
Common fresh	4,130	722	4,102,926	450,706	33,600	4,750
Common, salted			5,295	531		
Common, caviar			1,375	257		
Menominee, fresh			124,374	6,177		
Menominee, salted			45,315	3,133		
Yellow perch:						
Fresh	41,100	3,786	1,239,348	86,198	132,913	10,172
Salted			1,725	81		
Total	1,016,155	75,099	29,737,355	2,035,889	1,356,294	87,375

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS IN THE FISHERIES OF THE GREAT LAKES IN 1917, BY STATES—Continued.

Items.	Wisconsin.		Minnesota.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	658		50		1,930	
On vessels transporting	48		48		211	
In shore fisheries	781		429		5,066	
Shoresmen	422		81		2,014	
Total	1,909		608		9,221	
INVESTMENT.						
Vessels fishing:						
Steam	51	$282,000	5	$11,500	190	$977,348
Tonnage	1,082		80		4,063	
Outfit		69,755		1,760		249,494
Gasoline	149	143,460	2	8,500	278	314,010
Tonnage	1,373		26		2,521	
Outfit		23,661		2,725		76,332
Vessels transporting:						
Steam			4	56,000	11	87,500
Tonnage			194		329	
Outfit				17,880		23,580
Gasoline	43	23,425	6	17,500	106	134,125
Tonnage	309		58		935	
Outfit		2,550		3,415		22,700
Sail and row boats	228	5,530	270	7,770	2,006	61,958
Power boats	177	60,600	119	18,460	1,348	474,805
Apparatus, vessel fisheries:						
Gill nets	24,020	219,273	222	5,175	103,882	909,803
Lines		19,194				30,537
Apparatus, shore fisheries:						
Pound nets and trap nets	369	126,000	5	500	8,433	1,179,256
Gill nets	20,345	62,176	4,915	69,813	49,395	327,899
Fyke nets	3,286	33,400			4,938	100,707
Seines	60	17,970			446	67,247
Lines		2,834		1,325		11,008
Crawfish pots	6,400	1,600			6,400	1,600
Fishing machines					7	795
Other apparatus						1,536
Shore and accessory property		451,301		183,120		4,478,143
Cash capital		123,800		23,000		1,025,286
Total		1,668,529		428,443		10,555,669
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfin					15,086	$593
Burbot	136,522	$683			883,589	11,902
Carp, Asiatic	243,513	7,382			7,563,347	331,938
Catfish and bullheads	164,346	6,610			874,261	55,089
Ciscoes:						
Fresh	12,087,210	459,463	3,034,107	$96,389	41,932,874	2,083,244
Frozen			3,302,357	150,810	3,302,357	150,810
Salted	2,466,040	118,110	3,189,727	137,596	8,285,694	375,311
Smoked			5,400	432	8,400	552
Eels					43,007	3,402
Gold-eye, or moon-eye					10,335	104
Muskellunge					145	15
Pike	37,252	3,044			80,508	7,804
Pike perch:						
Blue pike					2,102,803	140,025
Wall-eyed or yellow pike, fresh	64,708	9,311			2,496,691	298,271
Wall-eyed or yellow pike, salted					30	3
Rock bass	1,714	137			13,622	813
Sauger					3,929,172	240,035
Sheepshead or drum	17,247	354			2,901,994	70,936
Sturgeon					95,216	21,707
Sturgeon caviar					2,135	4,670
Suckers:						
Fresh	1,224,346	40,072	27,055	1,078	5,331,468	203,646
Salted	27,145	1,091			30,960	1,235
Sunfish					25,535	1,395
Trout, lake:						
Fresh	5,369,971	563,641	405,135	34,079	13,281,389	1,279,285
Frozen			44,000	5,800	44,000	5,800
Salted	2,275	221	7,272	576	18,750	1,619
Trout, steelhead					21,950	3,349
White bass	675	27			287,387	17,289

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS IN THE FISHERIES OF THE GREAT LAKES IN 1917, BY STATES—Continued.

Items.	Wisconsin.		Minnesota.		Total.	
PRODUCTS—continued.						
Whitefish:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Common, fresh	210,685	$23,393	17,093	$2,285	6,185,453	$722,636
Common, salted					5,295	531
Common, caviar					1,375	257
Menominee, fresh	27,695	1,131	6,800	394	158,869	7,702
Menominee, salted	805	40	2,900	228	49,020	3,401
Yellow perch:						
Fresh	1,879,459	81,025			4,204,286	245,142
Salted					1,725	81
Crawfish	80,495	4,427			80,495	4,427
Total	24,042,103	1,320,162	10,041,846	429,667	104,269,223	6,295,019

FISHERIES OF MICHIGAN.

The fisheries of Michigan which were prosecuted in Lakes Erie, St. Clair and tributaries, Huron, Michigan, and Superior, but which were most extensive in Lake Huron and Lake Michigan, are shown in detail in the following table:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MICHIGAN IN 1917, BY LAKES.

Items.	Lake Erie.		Lake St. Clair.[1]		Lake Huron.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	2				149	
On vessels transporting					29	
In shore fisheries	171		64		1,023	
Shoresmen	10		75		147	
Total	183		139		1,348	
INVESTMENT.						
Vessels fishing:						
Steam					13	$57,500
Tonnage					266	
Outfit						20,850
Gasoline	1	$1,300			13	19,000
Tonnage	5				113	
Outfit		10				6,140
Vessels transporting:						
Steam					2	7,000
Tonnage					24	
Outfit						500
Gasoline					19	33,500
Tonnage					169	
Outfit						4,750
Sail and row boats	56	1,435	60	$1,640	310	8,020
Power boats	28	7,440	4	900	260	103,960
Apparatus, vessel fisheries:						
Gill nets	4	51			6,613	69,575
Lines						3,844
Apparatus, shore fisheries:						
Pound nets and trap nets	86	8,175			1,731	207,904
Gill nets	6	65			3,997	33,260
Fyke nets	278	17,243			460	12,135
Seines	58	5,530	6	1,385	77	7,960
Lines				50		2,145
Other apparatus						1,520
Shore and accessory property		27,365		171,350		432,092
Cash capital		5,000		62,000		156,100
Total		73,614		237,305		1,188,705

[1] Includes St. Clair River and wholesale trade of Detroit.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MICHIGAN IN 1917, BY LAKES—Continued.

Items.	Lake Erie.		Lake St. Clair.		Lake Huron.	
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfins					200	$4
Burbot					2,174	51
Carp, Asiatic	1,403,739	$57,731	85,330	$4,652	1,145,250	43,474
Catfish and bullheads					33,329	3,295
Ciscoes:						
Fresh	1,100	50			3,277,573	120,705
Salted					2,100,792	94,957
Smoked					3,000	120
Muskellunge					145	15
Pike					12,354	1,175
Pike perch:						
Wall-eyed or yellow pike—						
Fresh	70,870	8,155	48,000	7,200	994,642	119,231
Salted					30	3
Rock bass					4,283	208
Sheepshead or drum					17,731	615
Sturgeon	440	87			4,886	1,063
Sturgeon caviar					227	495
Suckers:						
Fresh	103,002	3,663			1,775,767	72,875
Salted					1,000	50
Sunfish					1,650	68
Trout, lake:						
Fresh					2,070,797	213,790
Salted					8,658	784
Whitefish:						
Common, fresh	27,275	3,701			993,501	124,050
Common, salted					3,350	330
Common, caviar					1,375	257
Menominee, fresh					46,457	2,191
Menominee, salted					20,017	1,200
Yellow perch, fresh	82,730	7,942			844,019	56,464
Total	1,689,156	81,329	133,330	11,852	13,363,207	857,470

Items.	Lake Michigan.		Lake Superior.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	436		42		629	
On vessels transporting	33		3		65	
In shore fisheries	568		291		2,117	
Shoresmen	108		32		372	
Total	1,145		368		3,183	
INVESTMENT.						
Vessels fishing:						
Steam	43	$134,450	3	$11,500	59	$203,450
Tonnage	758		126		1,150	
Outfit		52,040		7,800		80,690
Gasoline	78	65,950	1	5,000	93	91,250
Tonnage	616		66		800	
Outfit		25,155		2,600		33,905
Vessels transporting:						
Steam					2	7,000
Tonnage					24	
Outfit						500
Gasoline	17	14,800	1	2,000	37	50,300
Tonnage	186		10		365	
Outfit		1,965		500		7,215
Sail and row boats	241	4,828	74	1,230	741	17,153
Power boats	168	48,295	109	40,795	569	201,390
Apparatus, vessel fisheries:						
Gill nets	29,833	267,728	1,134	19,270	37,584	356,624
Lines		6,739		560		11,143
Apparatus, shore fisheries:						
Pound nets and trap nets	787	114,420	151	17,312	2,755	347,811
Gill nets	6,416	51,367	3,430	30,318	13,849	115,010
Fyke nets	57	6,395			795	35,773
Seines	1	150	5	325	147	15,330
Lines		515		2,119		4,829
Other apparatus						1,520

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MICHIGAN IN 1917, BY LAKES—Continued.

Items.	Lake Michigan.		Lake Superior.		Total.	
INVESTMENT—continued.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Shore and accessory property		$258,236		$112,050		$1,001,093
Cash capital		127,000		5,000		355,100
Total		1,178,883		258,379		2,937,086
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfins			2,675	$170	2,875	$174
Burbot	27,066	$622			29,240	673
Carp, Asiatic	1,840	72			2,636,159	105,929
Catfish and bullheads					33,329	3,295
Ciscoes:						
Fresh	3,159,135	173,810	923,986	39,171	7,361,794	333,736
Salted	519,726	23,574	500	23	2,621,018	118,554
Smoked					3,000	120
Muskellunge					145	15
Pike	8,020	776	800	80	21,174	2,031
Pike perch:						
Wall-eyed or yellow pike—						
Fresh	89,016	11,987	4,879	681	1,207,407	147,254
Salted					30	3
Rock bass					4,283	208
Sheepshead or drum	10,415	412			28,146	1,027
Sturgeon	8,409	1,837			13,735	2,987
Sturgeon caviar	281	789			508	1,284
Suckers:						
Fresh	995,552	39,453	175,248	7,116	3,049,569	123,107
Salted	2,815	94			3,815	144
Sunfish					1,650	68
Trout, lake:						
Fresh	3,580,969	306,044	1,536,851	127,374	7,188,617	647,208
Salted	545	38			9,203	822
Trout, steelhead	700	117			700	117
White bass	600	50			600	50
Whitefish:						
Common, fresh	2,839,868	298,594	242,262	24,361	4,102,906	450,706
Common, salted	1,945	201			5,295	531
Common, caviar					1,375	257
Menominee, fresh	76,687	3,876	1,230	110	124,374	6,177
Menominee, salted	25,298	1,933			45,315	3,133
Yellow perch:						
Fresh	309,599	21,557	3,000	235	1,239,348	86,198
Salted	1,725	81			1,725	81
Total	11,660,211	885,917	2,891,431	199,321	29,737,335	2,035,889

FISHERIES OF WISCONSIN.

The fisheries of Wisconsin which were prosecuted in Lakes Michigan and Superior are given in detail in the following table:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF WISCONSIN IN 1917, BY LAKES.

Items.	Lake Michigan.		Lake Superior.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	584		74		658	
On vessels transporting	48				48	
In shore fisheries	647		134		781	
Shoresmen	258		164		422	
Total	1,537		372		1,909	
INVESTMENT.						
Vessels fishing:						
Steam	47	$252,200	4	$29,800	51	$282,000
Tonnage	986		96		1,082	
Outfit		68,235		1,520		69,755
Gasoline	148	136,460	1	7,000	149	143,460
Tonnage	1,361		12		1,373	
Outfit		23,436		225		23,661
Vessels transporting:						
Gasoline	43	23,425			43	23,425
Tonnage	309				309	
Outfit		2,550				2,550
Sail and row boats	155	4,310	73	1,220	228	5,530
Power boats	125	37,450	52	23,150	177	60,600
Apparatus:						
Vessel fisheries—						
Gill nets	23,570	211,723	450	7,550	24,020	219,273
Lines		18,794		400		19,194
Shore fisheries—						
Pound nets and trap nets	321	117,550	48	8,450	369	126,000
Gill nets	19,379	49,316	966	12,860	20,345	62,176
Fyke nets	3,286	33,400			3,286	33,400
Seines	60	17,970			60	17,970
Lines		1,465		1,369		2,834
Crawfish pots	6,400	1,600			6,400	1,600
Shore and accessory property		405,161		46,140		451,301
Cash capital		109,300		14,500		123,800
Total		1,514,345		154,184		1,668,529
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Burbot	136,522	$683			136,522	$683
Carp, Asiatic	243,513	7,382			243,513	7,382
Catfish and bullheads	164,346	6,610			164,346	6,610
Ciscoes:						
Fresh	10,352,805	425,975	1,734,405	$33,488	12,087,210	459,463
Salted	2,398,040	115,770	68,000	2,340	2,466,040	118,110
Pike	32,352	2,569	4,900	475	37,252	3,044
Pike perch (wall-eyed or yellow pike)	41,608	6,218	23,100	3,093	64,708	9,311
Rock bass	1,714	137			1,714	137
Sheepshead or drum	17,247	354			17,247	354
Suckers:						
Fresh	1,100,446	35,082	123,900	4,990	1,224,346	40,072
Salted	11,295	531	15,850	560	27,145	1,091
Trout, lake:						
Fresh	4,774,876	515,497	595,095	48,144	5,369,971	563,641
Salted	2,275	221			2,275	221
White bass	675	27			675	27
White fish:						
Common, fresh	167,830	19,096	42,855	4,297	210,685	23,393
Menominee, fresh	23,645	953	4,050	178	27,695	1,131
Menominee, salted	805	40			805	40
Yellow perch	1,877,459	8,904	2,000	121	1,879,459	9,025
Crawfish	80,495	4,427			80,495	4,427
Total	21,427,948	1,150,476	2,614,155	97,686	24,042,103	1,248,162

FISHERIES OF NEW YORK.

The fisheries of New York in the Great Lakes are conducted in Lake Ontario and the St. Lawrence and Niagara Rivers, and also in two counties, Erie and Chautauqua, on Lake Erie. The number of persons engaged, investment, and products of these fisheries are given in detail in the following table:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF NEW YORK IN 1917, BY LAKES.

Items.	Lake Ontario.[1]		Lake Erie.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	2		80		82	
On vessels transporting	2				2	
In shore fisheries	363		88		451	
Shoresmen	11		137		148	
Total	378		305		683	
INVESTMENT.						
Vessels fishing:						
Steam			11	$79,000	11	$79,000
Tonnage			236		236	
Outfit				10,230		10,230
Gasoline	1	$1,200	4	7,500	5	8,700
Tonnage	8		30		38	
Outfit		20		1,160		1,180
Vessels transporting, gasoline	1	1,300			1	1,300
Tonnage	10				10	
Outfit		65				65
Sail and row boats	189	4,765	13	360	202	5,125
Power boats	79	17,130	31	18,675	110	35,805
Apparatus, vessel fisheries: Gill nets	3	40	7,470	53,777	7,473	53,817
Apparatus, shore fisheries:						
Pound nets and trap nets	353	21,460	30	2,820	383	24,280
Gill nets	162	15,135	3,322	26,451	3,484	41,586
Fyke nets	334	4,374			334	4,374
Seines	12	610	8	240	20	850
Lines		1,174		698		1,872
Fishing machines	7	795			7	795
Other apparatus		6				6
Shore and accessory property		50,235		337,265		387,500
Cash capital		20,000		116,886		136,886
Total		138,309		655,062		793,371
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bowfin	7,046	$350			7,046	$350
Burbot	61,760	2,388	15,265	$245	77,025	2,633
Carp, Asiatic	41,472	2,173	29,508	1,570	70,980	3,743
Catfish and bullheads	47,934	5,935	695	81	48,629	6,016
Ciscoes:						
Fresh	460,363	39,991	2,043,360	133,085	2,503,723	173,076
Salted	8,909	1,051			8,909	1,051
Eels	43,007	3,402			43,007	3,402
Pike	16,191	2,149			16,191	2,149
Pike perch:						
Blue pike	45,730	4,784	19,644	1,669	65,374	6,453
Wall-eyed or yellow pike	2,590	458	5,798	719	8,388	1,177
Rock bass	7,525	463	100	5	7,625	468
Sauger			77,598	3,879	77,598	3,879
Sheepshead or drum	300	23	55	3	355	26
Sturgeon	51,141	12,063	22,139	5,147	73,280	17,210
Sturgeon caviar	544	1,232	1,018	2,045	1,562	3,277
Suckers	89,111	6,317	46,988	2,588	136,099	8,905
Sunfish	23,885	1,327			23,885	1,327
Trout	23,694	2,818	1,541	156	25,235	2,974
White bass			30	2	30	2
Whitefish	88,347	11,120	143,068	14,510	231,415	25,630
Yellow perch	34,839	2,819	20,041	1,654	54,880	4,473
Total	1,054,388	100,863	2,426,848	167,358	3,481,236	268,221

[1]Includes St. Lawrence and Niagara Rivers.

FISHERIES OF LAKE OF THE WOODS, RAINY LAKE, AND LAKES KABETOGAMA AND LA CROIX.

The number of persons engaged in the fisheries of Lake of the Woods, Rainy Lake, and Lakes Kabetogama and La Croix, Minn., in 1917 was 195, of whom 9 were on transporting vessels, 165 in the shore or boat fisheries, and 21 shoresmen.

The investment amounted to $177,210, which included 2 transporting vessels with their outfits, valued at $15,960, 82 sail and power boats, valued at $28,100; fishing apparatus to the value of $44,800; shore and accessory property, valued at $81,850; and cash capital utilized to the amount of $6,500. The fishing apparatus included 185 pound nets, valued at $36,250; 220 gill nets, valued at $8,150; and 30 fyke nets, valued at $400.

The products of the fisheries amounted to 2,167,169 pounds, valued at $118,508, which was divided among the different forms of apparatus as follows: Pound nets, 1,576,829 pounds, value $85,432; gill nets, 575,390 pounds, value $32,366; and fyke nets, 14,950 pounds, value $710. Among the principal species were pike perch, 706,279 pounds, valued at $67,615; pike, 553,037 pounds, valued at $22,109; ciscoes, 392,548 pounds, valued at $12,770; suckers, 268,980 pounds, valued at $3,584; whitefish, 96,185 pounds, valued at $8,095; and sturgeon, 13,820 pounds, valued at $1,659.

Following are given some comparative figures for Lake of the Woods for 1903 based on unpublished data and for 1917. In 1917 there were 100 men employed in the fisheries of this lake, an increase of 46 as compared with 1903. In 1903, the fishing apparatus consisted of 57 pound nets, valued at $17,100, as compared with 100 pound nets, valued at $15,000; 45 gill nets, valued at $1,500; and 30 fyke nets, valued at $400 in 1917. The products of the fisheries in 1903 amounted to 430,209 pounds, valued at $17,954, and in 1917 to 1,098,744 pounds, valued at $59,748, an increase of 668,535 pounds in quantity and of $41,794 in value.

The table following shows the extent of the fisheries of Lake of the Woods, Rainy Lake, and Lakes Kabetogama and La Croix, Minn., in 1917.

FISHERIES OF LAKE OF THE WOODS, RAINY LAKE, AND LAKES KABETOGAMA AND LA CROIX, MINN., 1917.

Items.	Lake of the Woods.		Rainy Lake and Lakes Kabetogama and La Croix.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels transporting	7		2		9	
In shore or boat fisheries	80		85		165	
Shoresmen	13		8		21	
Total	100		95		195	
INVESTMENT.						
Transporting vessels (steamers)	1	$8,300	1	$1,500	2	$9,800
Tonnage	20		9		29	
Value of outfit		5,760		400		6,160
Sail boats	3	800			3	800
Power boats	39	13,300	40	14,000	79	27,300
Pound nets	100	15,000	85	21,250	185	36,250
Gill nets	45	1,500	175	6,650	220	8,150
Fyke nets	30	400			30	400
Shore and accessory property		63,600		18,250		81,850
Cash capital		3,500		3,000		6,500
Total		112,160		65,050		177,210
PRODUCTS BY APPARATUS.						
Pound nets:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Bullheads	5,400	$295			5,400	$295
Burbot	50,500	303	16,600	$250	67,100	553
Ciscoes ("Tullibee")	22,048	440	262,500	9,100	284,548	9,540
Gold-eye	38,865	583			38,865	583
Pike	191,537	6,989	188,600	7,500	380,137	14,489
Pike perch (wall-eyed or yellow pike)	335,279	30,475	200,000	20,000	535,279	50,475
Sturgeon	10,495	1,259	3,325	400	13,820	1,659
Suckers	160,180	2,119	30,000	375	190,180	2,494
Trout	130	9			130	9
Whitefish	45,135	3,985	15,000	1,200	60,135	5,185
Yellow perch	1,235	150			1,235	150
Total	860,804	46,607	716,025	38,825	1,576,829	85,432
Gill nets:						
Burbot	640	11			640	11
Ciscoes ("Tullibee")	20,500	630	87,500	2,600	108,000	3,230
Gold-eye	11,500	230			11,500	230
Pike	75,500	3,750	94,400	3,750	169,900	7,500
Pike perch (wall-eyed or yellow pike)	70,000	7,050	100,000	10,000	170,000	17,050
Suckers	43,800	650	30,000	375	73,800	1,025
Trout			2,500	200	2,500	200
Whitefish	1,050	110	35,000	2,800	36,050	2,910
Yellow perch			3,000	210	3,000	210
Total	222,990	12,431	352,400	19,935	575,390	32,366
Fyke nets:						
Bullheads	4,250	275			4,250	275
Crappie	100	10			100	10
Pike	3,000	120			3,000	120
Pike perch (wall-eyed or yellow pike)	1,000	90			1,000	90
Suckers	5,000	65			5,000	65
Yellow perch	1,600	150			1,600	150
Total	14,950	710			14,950	710
Grand total	1,098,744	59,748	1,068,425	58,760	2,167,169	118,508

FISHERIES OF THE GULF STATES IN 1918.

The information contained in this report applies to the commercial coast fisheries of the western coast of Florida, Alabama, Mississippi, Louisiana, and Texas, and is for the year 1918. The data were collected in 1919 by Winthrop A. Roberts and Rob Leon Greer, agents of this Bureau.

EARLIER PUBLICATIONS.

Some of the earlier publications relating to the fisheries of the Gulf States and published in Washington, D. C., follow:

Fisheries of the Gulf of Mexico, by Silas Stearns. The Fisheries and Fishery Industries of the United States, 1887, Section II, a Geographical Review of the Fisheries Industries and Fishing Communities for the Year 1880, pp. 533–587.

A Statistical Report on the Fisheries of the Gulf States, by J. W. Collins and H. M. Smith. Bulletin, U. S. Fish Commission, 1891, pp. 91–184.

Report on the Coast Fisheries of Texas, by Charles H. Stevenson. Appendix, Report of Commissioner, U. S. Commission of Fish and Fisheries, 1889–1891, pp. 373–420, pls. 13–27.

The Fish and Fisheries of the Coastal Waters of Florida. Transmitted to the United States Senate by the Commissioner of Fish and Fisheries, January 28, 1897. Senate Document 100, Fifty-fourth Congress, second session. See also pages 263–342, Appendix, Report of Commissioner, U. S. Commission of Fish and Fisheries, 1896.

Statistics of the Fisheries of the Gulf States, by C. H. Townsend. Report of Commissioner, U. S. Commission of Fish and Fisheries, 1899, pp. 105–169.

Statistics of the Fisheries of the Gulf States, 1902. Appendix, Report of Commissioner, U. S. Commission of Fish and Fisheries, 1903, pp. 411–481.

Fisheries of the United States, 1908. Special Reports, Bureau of the Census, 1911.

COMMON AND SCIENTIFIC NAMES OF FISHES OF GULF STATES.

To prevent misunderstanding from the use of the common names employed in the tables and discussions, the following list of common and scientific names of fishes is appended, the common name being the first given in every case. As the same common name is sometimes applied to more than one species of the same genus or species belonging to different genera, in such cases only the generic or family names are given, it being impossible to ascertain definitely the names of all the species represented in the catch. The names kingfish, whiting, sea mullet, sea mink, Virginia mullet, Carolina whiting, roundhead, hake, tom-cod, black mullet, etc., are applied to species of Menticirrhus. Most of these are used to designate other unrelated species, such as kingfish (*Scomberomorus regalis*) and whiting (*Merluccius bilinearis*), with resultant confusion. To avoid this confusion the Bureau has adopted the name king whiting for species of *Menticirrhus* in its reports, and suggests that the trade follow this practice in establishing a distinctive name for these important food fishes.

Amberfish	Seriola (species).
Angelfish	*Chætodipterus faber.*
Barracuda	Sphyræna (species).
Black drum	*Pogonias cromis.*
Bluefish	*Pomatomus saltatrix.*
Blue runner or hardtail	*Caranx crysos.*
Bonito	*Sarda sarda.*
Catfish	*Felichthys marinus.* *Galeichthys felis.*
Cero and kingfish	*Scomberomorus cavalla.* *Scomberomorus regalis.*

Cowfish and "shellfish"	Ostraciidæ (species).
Crevallé	Caranx (species).
Croaker	*Micropogon undulatus.*
Elops or ten-pounder	*Elops saurus.*
Flounders	Pleuronectidæ (species).
Groupers	Epinephelus (species). Mycteroperca (species). *Garrupa nigrita.*
Grunts	Hæmulidæ (species).
Hogfish	*Lachnolaimus maximus.*
Jewfish	*Promicrops guttatus.*
King whiting	Menticirrhus (species).
Leather jacket or "turbot"	*Balistes carolinensis.*
Menhaden	*Brevoortia tyrannus.*
Moonfish	*Vomer setipinnis.*
Mullet	*Mugil cephalus.* *Mugil curema.*
Permit	*Trachinotus goodei.*
Pigfish	*Orthopristis chrysopterus.*
Pompano	*Trachinotus carolinus.* Trachinotus (other species). (See also permit.)
Porgies	Calamus (species). Pagrus (species).
Porkfish	*Anisotremus virginicus.*
Redfish or red drum	*Sciaenops ocellatus.*
Sailors choice	Applied indiscriminately to several species.
Scamp	*Mycteroperca phenax.*
Sea bass	*Centropristes striatus.*
Sea gar	Tylosurus (species).
Sergeantfish or snook	*Centropomus undecimalis.*
Sharks	All Selachii except Batoidei.
Sheepshead	*Archosargus probatocephalus.*
Snapper, mangrove	*Lutianus griseus.*
Snapper, mutton	*Lutianus analis.*
Snapper, red	*Lutianus blackfordi.*
Spanish mackerel	*Scomberomorus maculatus.*
Spot	*Leiostomus xanthurus.*
Squeteagues or "sea trout"	*Cynoscion regalis.* *Cynoscion nothus.* *Cynoscion nebulosus.*
Sturgeon	*Acipenser sturio.*
Tang	Teuthididæ (species).
Tarpon	*Tarpon atlanticus.*
Yellowtail	*Ocyurus chrysurus.*

GENERAL STATISTICS.

The fisheries of the Gulf States in 1918 gave employment to 14,888 persons, of whom 1,731 were on vessels fishing, 297 on vessels transporting fishery products, 7,801 in shore fisheries, and 5,059 shoresmen in wholesale fish establishments, shrimp and oyster canneries, and other branches of the fishery industries. The west coast of Florida had 5,161 persons employed in its fisheries; Alabama, 783; Mississippi, 2,867; Louisiana, 4,191; and Texas, 1,886. Compared with the returns for 1902, the year for which the last canvass was made by the Bureau, there has been a decrease in the number of persons employed in all of the States except Texas, the total decrease being 3,141, or 17.42 per cent. The largest decrease was 1,477, or 34 per cent, in Mississippi. The increase in Texas was 742 persons, or 64.86 per cent. In this connection it will be recalled that during

the year 1918 large numbers of persons entered the military branches of the Government or engaged in other war activities, such as ship building.

The total amount of capital invested in the fisheries of these States in 1918 was $6,537,859. In Florida the investment was $2,404,245; in Alabama, $334,741; in Mississippi, $1,433,585; in Louisiana, $1,475,188; and in Texas, $890,100. There has been an increase of $1,830,399, or 38.88 per cent, in money invested in the fisheries of this region since 1902. The investment included 533 fishing and transporting vessels, valued at $1,259,840, and having a net tonnage of 8,655 net tons and outfits valued at $273,682; 6,642 boats, valued at $1,175,017; fishing apparatus used by vessels and boats, valued at $503,985; shore and accessory property to the value of $2,669,135; and cash capital to the amount of $656,200. The forms of fishing apparatus, arranged in order of value, are: Seines, 825, valued at $201,390; gill nets, 2,092, valued at $114,055; sponge apparatus to the value of $71,145; trammel nets, 516, valued at $44,910; tongs, 2,377, valued at $15,506; otter trawls, 422, valued at $13,755; lines to the value of $13,534; stop nets, 136, valued at $6,810; dredges, 198, valued at $5,950; and other apparatus to the value of $16,930. The use of the otter trawl, introduced in the shrimp fishery at Fernandina, Fla., about 1915, which is spreading rapidly along the Gulf coast, probably represents the most important change in apparatus since 1902.

The products of the fisheries in 1918 aggregated 130,923,583 pounds, valued at $6,510,310. Of this quantity, the west coast of Florida produced 54,753,639 pounds, valued at $3,420,363; Alabama, 5,609,219 pounds, valued at $230,567; Mississippi, 20,592,089 pounds, valued at $762,770; Louisiana, 24,953,876 pounds, valued at $1,419,367; and Texas, 25,014,760 pounds, valued at $677,243. The more important species taken in these States were black drum, 2,011,288 pounds, valued at $49,140; catfish, 851,265 pounds, valued at $40,072; croaker, 714,692 pounds, valued at $43,446; groupers, 5,935,825 pounds, valued at $235,406; menhaden, taken mostly in Texas, 14,392,920 pounds, valued at $109,939; mullet, including roe, 28,641,364 pounds, valued at $1,318,379; redfish, or red drum, 2,986,180 pounds, valued at $175,109; red snapper, 9,429,802 pounds, valued at $609,312; Spanish mackerel, 3,494,845 pounds, valued at $251,197; squeteagues, or "sea trout," 4,960,738 pounds, valued at $414,593; shrimp, green and dried, 27,142,999 pounds, valued at $1,098,427; crabs, 821,244 pounds, valued at $34,529; and oysters, 23,754,465 pounds, or 3,393,495 bushels, valued at $1,106,725.

Compared with the Bureau's returns for 1902, there has been an increase in the products of the fisheries of 17,226,613 pounds, or 15.15 per cent, in the quantity and of $3,016,114, or 86.31 per cent, in the value. Compared with the census returns for 1908, the increase amounts to 12,649,583 pounds, or 10.69 per cent, in quantity, and $1,650,310, or 33.95 per cent, in value.

Following are comparative figures of some of the more important species taken in the fisheries of the Gulf States in 1902 and 1918 for which there have been long-established fisheries: Catch of mullet, in 1902, 27,233,322 pounds, in 1918, 28,641,364 pounds; pompano, including permit, in 1902, 548,344 pounds, in 1918, 271,555 pounds;

redfish, or red drum, in 1902, 2,607,881 pounds, in 1918, 2,986,280 pounds; salt-water sheepshead, in 1902, 1,974,815 pounds, in 1918, 1,558,514 pounds; snappers, in 1902, 13,995,660 pounds, in 1918, 9,547,901 pounds; squeteagues, or "sea trout," in 1902, 4,789,047 pounds, in 1918, 4,960,738 pounds; and oysters, in 1902, 34,115,935 pounds, in 1918, 23,754,465 pounds. The total for these species for 1902 was 85,265,004 pounds, and for 1918, 71,720,817 pounds, a decrease of 13,544,187 pounds. It will be noted that the falling off is confined largely to the oyster industry, the catch of other products changing but little. The falling off in the oyster catch was probably due chiefly to loss of men to war activities and to transportation difficulties.

In connection with the above comparisons and with the efforts of the Bureau and other agencies to increase the use of fishery products, particularly the neglected forms, the following comparative figures for these years are of interest: Catch of black drum, in 1902, 418,875 pounds, in 1918, 2,011,288 pounds; crevalles, including blue runner, in 1902, 100,105 pounds, in 1918, 507,005 pounds; cero and kingfish, in 1902, 152,700 pounds, in 1918, 465,860 pounds; groupers, in 1902, 1,112,258 pounds, in 1918, 5,935,825 pounds; menhaden, in 1902, 12,500 pounds, in 1918, 14,413,942 pounds; Spanish mackerel, in 1902, 1,583,891 pounds, in 1918, 3,494,845 pounds; and shrimp, in 1902, 12,366,915 pounds, in 1918, 27,142,999 pounds. The total for these species for 1902 was 15,747,244 pounds, and for 1918, 53,971,757 pounds, an increase of 38,224,513 pounds.

The following tables give the comparative statistics for various years from 1890 to 1918 for (1) five important fisheries which have been long established, and (2) five fisheries of less importance, showing their development and increase in recent years.

COMPARATIVE STATISTICS OF PRODUCTS OF CERTAIN FISHERIES OF THE GULF STATES VARIOUS YEARS, 1890 TO 1918.

Year.	Mullet.	Redfish.	Snappers.	Squeteagues.	Oysters.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1890	15,185,117	2,160,767	4,527,920	2,959,433	20,587,098
1897	15,351,886	2,257,944	6,221,909	3,091,103	16,657,138
1902	27,233,322	2,607,881	13,995,660	4,789,047	34,115,935
1908	18,853,000	[1] 3,028,000	12,819,000	4,090,000	44,403,000
1918	28,641,364	2,986,280	9,547,901	4,960,738	23,754,465

Year.	Black drum.	Crevallés.[2]	Groupers.	Spanish mackerel.	Shrimp.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1890	136,053	430,499	427,781	700,459	7,451,350
1897	117,825	93,640	853,618	726,676	6,791,025
1902	418,875	100,105	1,112,258	1,583,891	12,366,910
1908		276,000	1,625,000	1,486,000	12,561,001
1918	2,011,288	507,005	5,935,825	3,494,845	27,142,999

[1] Probably includes some black drum, for which no separate figures are given.
[2] Includes blue runner.

The following tables contain statistics of the number of persons employed, the amount of capital invested, the quantity and value of the products of the fisheries of the Gulf States in 1918, and comparative statistics of the products of the fisheries for various years;

also a comparison of the extent of the fisheries in 1902 and 1918 and comparative statistics of the oyster industry for various years from 1880 to 1918:

FISHERIES OF THE GULF STATES, 1918.

Items.	Florida (west coast only).		Alabama.		Mississippi.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	623		85		601	
On vessels transporting	70		33		66	
In shore fisheries	3,600		365		673	
Shoresmen	868		300		1,527	
Total	5,161		783		2,867	
INVESTMENT.						
Vessels fishing:						
Gasoline	33	$92,630	11	$31,600	10	$16,900
Tonnage	360		198		87	
Outfit		27,043		9,490		2,640
Sail	62	309,800	4	15,000	115	184,850
Tonnage	2,069		210		1,469	
Outfit		71,520		1,500		33,175
Vessels transporting:						
Gasoline	34	105,800	11	15,200	10	18,500
Tonnage	455		107		124	
Outfit		22,444		2,550		2,195
Sail	50	80,650	5	2,900	25	35,625
Tonnage	1,025		41		410	
Outfit				975		3,055
Boats, sail, row, etc	2,019	128,900	208	6,865	449	21,985
Boats, power	1,018	438,962	82	31,325	154	77,520
Apparatus, vessel fisheries:						
Seines	1	1,600			79	19,560
Trammel nets			8	600	8	800
Gill nets	6	120				
Lines		5,379		530		40
Otter trawls	16	720	3	120	2	50
Dredges					171	5,100
Tongs	12	120	3	22	8	48
Sponge apparatus		210				
Other apparatus		2				
Apparatus, shore fisheries.						
Seines	163	61,175	3	600	19	4,710
Trammel nets	146	11,990	138	9,710	89	8,900
Gill nets	1,795	106,070	6	50		
Stop nets	136	6,810				
Lines		2,046		90		363
Otter trawls	107	4,770	43	1,720	101	2,525
Tongs	284	2,616	224	1,680	365	1,825
Sponge apparatus		70,935				
Other apparatus		12,596		144		1,060
Shore and accessory property		619,987		178,170		786,109
Cash capital		219,350		23,900		206,050
Total		2,404,245		334,741		1,433,585
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Amberfish	11,100	$413			900	$45
Angelfish	20,825	798	6,900	$278		
Barracuda	4,860	232				
Black drum	57,420	1,735	12,200	593	13,777	507
Bluefish:						
Fresh	246,168	17,411	8,750	275	2,566	190
Salted	12,240	915				
Blue runner or hardtail:						
Fresh	324,648	6,935	11,000	330		
Salted	65,430	2,734				
Bonito	50,955	2,045				
Catfish	51,427	3,126	40,663	902	16,108	682
Cero and kingfish	465,860	31,903				
Cowfish and "shellfish"	300	12				
Crevalle	105,927	3,800				
Croaker			93,500	3,252	40,600	1,917
Elops, or ten-pounder:						
Fresh	267,940	5,402				
Salted	9,883	334				
Flounders	37,381	2,089	38,607	2,300	37,865	3,030
Groupers	5,626,329	222,215	244,000	10,485	24,656	363
Grunts	87,349	3,618	2,700	59		

FISHERIES OF THE GULF STATES, 1918—Continued.

Items.	Florida (west coast only).		Alabama.		Mississippi.	
PRODUCTS—continued.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Hogfish	7,344	$336				
Jewfish	69,844	2,704	2,000	$75	8,800	$288
King whiting	35,188	2,126	9,600	312	18,517	966
Leather jacket, or "turbot"	7,756	357				
Menhaden:						
Fresh	263,530	6,779			11,050	80
Salted	21,022	669				
Moonfish	650	23				
Mullet:						
Fresh	22,569,736	973,129	1,693,520	67,540	1,229,948	46,801
Salted	2,453,930	177,974	6,000	275	209,498	15,632
Mullet roe:						
Fresh			10	3		
Salted	86,285	17,593			13,985	1,829
Permit	7,865	294				
Pigfish	6,596	250				
Pompano:						
Fresh	235,992	27,262	4,966	799	4,289	688
Salted	3,075	520				
Porgies	56,742	2,442			1,400	49
Porkfish	2,400	144				
Redfish or red drum:						
Fresh	937,490	38,068	23,250	1,127	115,685	8,135
Salted	7,321	366				
Sailors choice	21,132	809				
Scamp	300	10				
Sea bass	31,644	2,180	600	30	4,380	360
Sergeantfish or snook	73,745	2,568				
Sharks			600	17	400	12
Sheepshead	988,662	32,627	28,050	1,465	67,612	4,482
Snapper:						
Mangrove	103,999	4,359				
Mutton	14,100	564				
Red	7,230,168	455,640	798,400	49,075	98,232	6,877
Spanish mackerel:						
Fresh	3,408,701	244,026	4,284	277	11,531	966
Salted	27,200	1,505				
Spot	37,977	1,519	41,700	1,423	19,090	774
Squeteagues, or "sea trout":						
Fresh	1,630,686	145,534	138,630	6,611	356,070	28,874
Salted	31,625	3,772				
Sturgeon	4,915	620	2,938	125		
Sturgeon caviar and roe	12	12	60	45		
Tang	600	30				
Tarpon	1,800	180				
Yellowtail	31,735	1,537				
Shrimp: Green	3,250,468	81,408	1,265,612	38,828	9,147,445	319,595
Sea crawfish	322,015	16,064				
Crabs:						
Hard			95,850	3,292	216,025	5,607
Soft					9,000	2,275
Stone	24,500	2,600				
Terrapin	2,475	206	2,938	1,104	5,600	3,900
Turtles	65,370	4,429			337	20
Clams, hard	160,872	14,336				
Oysters:						
Market, public	2,602,446	121,049	651,126	22,690	7,503,209	259,414
Market, private	13,496	771	190,575	15,485	1,403,514	47,912
Seed, public			190,190	1,495		
Conch	2,000	100				
Sponges:						
Glove	2,022	245				
Grass	73,033	12,125				
Sheepswool	276,168	675,781				
Wire	9,324	2,817				
Yellow	91,641	34,187				
Total	54,753,639	3,420,363	5,609,219	230,567	20,592,089	762,770

FISHERIES OF THE GULF STATES, 1918—Continued.

Items.	Louisiana.		Texas.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	65		357		1,731	
On vessels transporting	128				297	
In shore fisheries	2,093		1,070		7,801	
Shoresmen	1,905		459		5,059	
Total	4,191		1,886		14,888	
INVESTMENT.						
Vessels fishing:						
Steam			2	$50,000	2	$50,000
Tonnage			217		217	
Outfit				14,800		14,800
Gasoline	16	$36,700	30	50,085	100	227,915
Tonnage	137		357		1,139	
Outfit		6,875		17,050		63,098
Sail	14	16,570	43	85,190	238	611,410
Tonnage	154		761		4,663	
Outfit		1,200		42,745		150,140
Vessels transporting:						
Gasoline	52	98,440			107	237,940
Tonnage	381				1,067	
Outfit		13,605				40,794
Sail	6	13,400			86	132,575
Tonnage	93				1,569	
Outfit		820				4,850
Boats, sail, row, etc	1,072	39,040	790	68,020	4,538	264,810
Boats, power	690	311,100	160	51,360	2,104	910,207
Apparatus, vessel fisheries:						
Seines	14	3,920	33	9,745	127	34,825
Trammel nets			3	260	19	1,660
Gill nets			6	90	12	210
Lines		20		1,075		7,044
Otter trawls	1	25			22	915
Dredges	25	750	2	100	198	5,950
Tongs	27	207	93	476	143	873
Sponge apparatus						210
Other apparatus				1		3
Apparatus, shore fisheries:						
Seines	316	71,955	197	28,125	698	166,565
Trammel nets	62	5,475	62	7,175	497	43,250
Gill nets			279	7,725	2,080	113,845
Stop nets					136	6,810
Lines		1,102		2,889		6,490
Otter trawls	149	3,825			400	12,840
Tongs	1,031	6,459	330	2,053	2,234	14,633
Sponge apparatus						70,935
Other apparatus		1,579		1,548		16,927
Shore and accessory property		671,621		413,248		2,669,135
Cash capital		170,500		36,400		656,200
Total		1,475,188		890,100		6,537,859
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Amberfish					12,000	$458
Angelfish	360	$18	124	$7	28,209	1,101
Barracuda					4,850	232
Black drum	54,455	1,911	1,873,436	44,394	2,011,288	49,140
Bluefish:						
Fresh			3,238	418	260,722	18,294
Salted					12,240	915
Blue runner or hardtail:						
Fresh					335,648	7,265
Salted					65,430	2,734
Bonito					50,955	2,045
Catfish	480,420	18,955	262,647	16,407	851,265	40,072
Cero and kingfish					465,860	31,903
Cowfish and "shellfish"					300	12
Crevalle					105,927	3,800
Croaker	383,035	28,862	197,557	9,415	714,692	43,446
Elops or ten-pounder:						
Fresh					267,940	5,402
Salted					9,883	334
Flounders	21,546	1,919	162,361	12,834	297,760	22,172
Groupers	20,000	1,000	20,840	843	5,935,825	235,406
Grunts			1,000	100	91,049	3,777

FISHERIES OF THE GULF STATES, 1918—Continued.

Items.	Louisiana.		Texas.		Total.	
PRODUCTS—continued.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Hogfish					7,344	$336
Jewfish			39,965	$2,514	120,609	5,581
King whiting			35,974	3,328	99,279	6,732
Leather jacket or "turbot"					7,756	357
Menhaden:						
Fresh			14,118,340	103,080	14,392,920	109,939
Salted					21,022	669
Moonfish					650	23
Mullet:						
Fresh	325,177	$15,794	53,275	1,809	25,871,656	1,105,073
Salted					2,669,428	193,881
Mullet roe:						
Fresh					10	3
Salted					100,270	19,422
Permit					7,865	294
Pigfish					6,596	250
Pompano:						
Fresh	820	184	14,548	2,007	260,615	30,940
Salted					3,075	520
Porgies					58,142	2,491
Porkfish					2,400	144
Redfish or red drum:						
Fresh	565,899	46,945	1,336,535	80,468	2,978,859	174,743
Salted					7,321	366
Sailors choice					21,132	809
Scamp					300	10
Sea bass	15,100	1,216	6,625	350	58,349	4,136
Sea gar:						
Fresh			80,887	4,697	80,887	4,697
Dried	6,500	455			6,500	455
Sergeantfish or snook					73,745	2,568
Sharks	2,000	60			3,000	89
Sheepshead	276,528	22,044	197,662	12,642	1,558,514	73,260
Snapper:						
Mangrove					103,999	4,359
Mutton					14,100	564
Red	60,000	4,000	1,243,002	93,720	9,429,802	609,312
Spanish mackerel:						
Fresh	1,775	226	41,354	4,197	3,467,645	249,692
Salted					27,200	1,505
Spot	66,625	3,330			165,392	7,046
Squeteagues or "sea trout":						
Fresh	1,190,357	110,474	1,613,370	119,328	4,929,113	410,821
Salted					31,625	3,772
Sturgeon					7,853	745
Sturgeon caviar and roe					72	57
Tang					600	30
Tarpon					1,800	180
Yellowtail	2,200	110			33,935	1,647
Shrimp:						
Green	12,571,861	442,480	164,067	8,791	26,399,453	891,102
Dried	743,546	207,325			743,546	207,325
Sea crawfish					322,015	16,064
Squid	560	56			560	56
Crabs:						
Hard	281,925	9,908	193,244	10,672	[1] 787,044	29,479
Soft			700	175	[2] 9,700	2,450
Stone					24,500	2,600
Terrapin	23,406	7,578	2,850	990	37,269	13,778
Turtles	4,360	218	6,671	447	76,738	5,114
Clams, hard					[3] 160,872	14,336
Oysters:						
Market, public	919,254	33,903	3,292,457	140,046	[4] 14,968,492	577,102
Market, private	6,936,167	460,396	52,031	3,564	[5] 8,595,783	528,128
Seed, public					[6] 190,190	1,495
Conch					2,000	100
Sponges:						
Glove					2,022	24
Grass					73,033	12,12[5]
Sheepswool					276,168	675,78[5]
Wire					9,324	2,811
Yellow					91,641	34,187
Total	24,953,876	1,419,367	25,014,760	677,243	130,923,583	6,510,310

[1] 2,361,132 in number.
[2] 29,100 in number.
[3] 20,109 bushels.
[4] 2,138,356 bushels.
[5] 1,227,969 bushels.
[6] 27,170 bushels.

COMPARATIVE STATISTICS OF PRODUCTS OF FISHERIES OF THE GULF STATES, VARIOUS YEARS, 1880 TO 1918.[1]

Years.	Florida (west coast only).		Alabama.		Mississippi.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
1880	8,376,335	$564,819	3,541,500	$119,275	788,500	$22,540
1887					6,548,175	189,716
1888						
1889	19,597,084	802,282	1,633,589	75,560	7,883,010	231,712
1890	23,597,240	948,845	4,560,269	146,841	8,933,339	250,884
1897	27,418,562	1,064,139	4,776,968	154,871	8,131,401	245,699
1902	28,255,219	944,793	4,699,381	134,438	7,829,685	192,298
1908	48,120,019	1,462,166	9,351,447	266,682	23,426,965	553,220
1918	37,566,000	2,120,000	10,665,000	387,000	17,302,000	459,000
	54,753,639	3,420,363	5,609,219	230,567	20,592,089	762,770

Years.	Louisiana.		Texas.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
1880	6,996,000	$392,610	3,858,875	$128,300	23,561,210	$1,227,544
1887	18,455,489	579,504	6,282,489	256,250		
1888	19,121,056	612,820	6,609,161	271,257	54,843,900	1,993,631
1889	20,947,239	621,048	7,357,800	297,258	65,395,887	2,264,876
1890	20,789,203	660,134	7,959,400	313,832	69,075,534	2,438,675
1897	17,401,788	713,587	7,174,550	286,610	65,360,623	2,271,726
1902	24,754,135	858,314	8,044,404	353,814	113,696,970	3,494,196
1908	42,302,000	1,448,000	10,439,000	446,000	118,274,000	4,860,000
1918	24,953,876	1,419,367	25,014,760	677,243	130,923,583	6,510,310

[1] The statistics for 1908 in this table are from data published by the Bureau of the Census.

COMPARATIVE STATISTICS OF EXTENT OF FISHERIES OF THE GULF STATES IN 1902 AND 1918.

States.	Persons engaged.				Capital invested.			
	1902	1918	Increase or decrease.		1902	1918	Increase.	
	Number.	*Number.*	*Number.*	*Per cent.*				*Per cent.*
Florida	6,416	5,161	−1,255	−19.56	$1,945,320	$2,404,245	$458,925	23.59
Alabama	1,098	783	− 315	−28.68	328,285	334,741	6,456	1.96
Mississippi	4,344	2,867	−1,477	−34.00	1,270,408	1,433,585	163,177	12.84
Louisiana	5,027	4,191	− 836	−16.63	789,723	1,475,188	685,465	86.79
Texas	1,144	1,886	+ 742	+64.86	373,724	890,100	516,376	138.17
Total	18,029	14,888	−3,141	−17.42	4,707,460	6,537,859	1,830,399	38.88

States.	Products.							
	Pounds.				Value.			
	1902	1918	Increase or decrease.		1902	1918	Increase or decrease.	
				Per cent.				*Per cent.*
Florida	48,120,019	54,753,639	+ 6,633,620	+ 13.78	$1,462,166	$3,420,363	+$1,958,197	+133.92
Alabama	9,351,447	5,609,219	− 3,742,228	− 40.01	266,682	230,567	− 36,115	− 13.54
Mississippi	23,426,965	20,592,089	− 2,834,876	− 12.10	553,220	762,770	+ 209,550	+ 37.87
Louisiana	24,754,135	24,953,876	+ 199,741	+ .80	858,314	1,419,367	+ 561,053	+ 65.36
Texas	8,044,404	25,014,760	+16,970,356	+210.95	353,814	677,243	+ 323,429	+ 91.41
Total	113,696,970	130,923,583	+17,226,613	+ 15.15	3,494,196	6,510,310	+3,016,114	+ 86.31

COMPARATIVE STATISTICS OF THE OYSTER INDUSTRY OF THE GULF STATES, VARIOUS YEARS, 1880 TO 1918.[1]

Years.	Florida.		Alabama.		Mississippi.	
	Bushels.	*Value.*	*Bushels.*	*Value.*	*Bushels.*	*Value.*
1880	58,600	$10,950	104,500	$44,950	25,000	$10,000
1887	(2)	(2)	(2)	(2)	581,100	118,974
1888	181,445	44,448	76,125	32,174	767,205	157,463
1889	294,871	75,189	438,425	96,758	840,503	167,713
1890	371,081	93,692	481,070	107,812	806,478	166,672
1895	170,518	46,308	(2)	(2)	(2)	(2)
1897	179,715	50,258	255,053	60,207	629,713	110,964
1902	579,587	124,108	347,460	119,773	2,405,132	426,222
1908	538,000	187,000	590,400	172,940	1,067,600	295,340
1911	187,462	109,472	441,917	72,742	657,670	140,420
1918	373,706	121,820	147,413	39,670	[3] 1,272,389	307,326

Years.	Louisiana.		Texas.		Total.	
	Bushels.	*Value.*	*Bushels.*	*Value.*	*Bushels.*	*Value.*
1880	295,000	$200,000	67,054	$47,300	550,154	$313,200
1887	678,227	215,163	256,199	88,275	(2)	(2)
1888	719,992	230,820	341,275	109,633	2,086,042	574,538
1889	835,520	269,057	360,600	111,400	2,774,919	720,117
1890	841,585	299,896	440,800	127,990	2,941,014	796,062
1895	(2)	(2)	(2)	(2)	(2)	(2)
1897	959,190	432,668	355,910	94,663	2,379,581	748,760
1902	1,198,413	493,227	343,113	100,359	4,873,705	1,263,689
1908	3,623,800	762,800	497,200	167,880	6,317,000	1,585,960
1911	4,504,402	1,022,723	434,690	131,609	6,226,141	1,476,966
1918	1,122,203	494,299	[4] 477,784	143,610	3,393,495	1,106,725

[1] The statistics for 1908 are from data published by the Bureau of the Census.
[2] Statistics not available.
[3] Includes 506,639 bushels, valued at $118,328, from private beds in Louisiana and 188,514 bushels, valued at $44,166, from public beds in Louisiana, all taken by Mississippi men.
[4] Includes 11,250 bushels, valued at $3,000, taken from Louisiana public beds by Texas men.

FISHERIES OF FLORIDA.

The statistics of the fisheries of Florida here presented are for the west or Gulf coast only. The fisheries of this part of Florida were more extensive than those of Alabama, Mississippi, and Louisiana combined. The number of persons employed was 5,161, of whom 623 were on vessels fishing, 70 on vessels transporting fishery products, 3,600 in the shore or boat fisheries, and 868 on shore in the wholesale fish establishments, in canneries, and other fishery industries.

The investment amounted to $2,404,245, which includes 95 fishing vessels, valued at $402,430, with a net tonnage of 2,429 tons, and outfits valued at $98,563; 84 transporting vessels, valued at $186,450, with a net tonnage of 1,480 tons, and outfits valued at $22,444; 1,018 power boats, valued at $438,962; 2,019 sail and other boats, valued at $128,900; fishing apparatus employed on vessels to the value of $8,151; fishing apparatus employed on boats to the value of $279,008; shore and accessory property valued at $619,987; and cash capital amounting to $219,350.

The products amounted to 54,753,639 pounds, valued at $3,420,363. This represents 41.82 per cent of the total quantity and 52.53 per cent of the total value of the products of the fisheries of the Gulf Coast States in 1918. Compared with 1902, there was an increase of 13.78 per cent in quantity and 133.92 per cent in value to the fishermen for the west coast of Florida. Among the products of special

importance were the following: Cero and kingfish, 465,860 pounds, valued at $31,903; groupers, 5,626,329 pounds, valued at $222,215; mullet, 25,109,951 pounds, valued at $1,168,696; redfish or red drum, 937,490 pounds, valued at $38,068; sheepshead, 988,662 pounds, valued at $32,627; red snapper, 7,230,168 pounds, valued at $455,640; Spanish mackerel, 3,435,901 pounds, valued at $245,531; squeteagues or "sea trout," 1,662,311 pounds, valued at $149,306; shrimp, 3,250,468 pounds, valued at $81,408; sea crawfish, 322,015 pounds, valued at $16,064; oysters, 2,615,942 pounds, or 373,706 bushels, valued at $121,820; and sponges, 452,188 pounds, valued at $725,155.

FISHERIES, BY COUNTIES.

The statistics as to the number of persons employed, investment, and products of the fisheries, by counties, of the west coast of Florida in 1918 are given in the following table:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES.

Items.	Bay County.		Calhoun County.		Citrus County.		De Soto County.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	20		2					
On vessels transporting							22	
In shore fisheries	335		20		130		274	
Shoresmen	26		6		17		72	
Total	381		28		147		368	
INVESTMENT.								
Vessels fishing:								
Gasoline	3	$15,000	1	$1,400				
Tonnage	63		7					
Outfit		7,323		50				
Vessels transporting:								
Gasoline							8	$39,500
Tonnage							138	
Outfit								16,000
Boats, sail, row, etc	59	1,705	4	100	130	$3,000	319	22,280
Boats, power	93	36,275	7	2,550	32	9,300	119	28,200
Apparatus, vessel fisheries:								
Lines		240						
Otter trawls			2	90				
Apparatus, shore fisheries:								
Seines	38	15,450	2	700			12	4,800
Gill nets	46	4,520	5	500	110	4,650	374	23,400
Stop nets							51	2,730
Lines		165				23		120
Tongs	13	194			8	56	4	36
Other apparatus		3						
Shore and accessory property		17,817		3,613		10,215		27,907
Cash capital		9,500		3,000		13,200		27,000
Total		108,102		12,003		40,444		191,973

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Bay County.		Calhoun County.		Citrus County.		De Soto County.	
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish					310	$14	5,256	$186
Black drum	275	$11			7,350	262	17,800	534
Bluefish:								
Fresh	72,243	4,305	23,468	$1,367	490	40	37,908	3,411
Salted	12,240	915						
Blue runner or hardtail:								
Fresh	165,315	2,482					600	24
Salted	65,430	2,734						
Bonito	25,897	1,036						
Catfish							22,000	990
Cero and kingfish							3,011	240
Crevalle					590	25	41,287	1,391
Elops or ten-pounder:								
Fresh	10,975	219					4,280	134
Salted	3,810	152						
Flounders	2,504	126	1,150	56	200	8	3,112	95
Groupers	327,736	13,358					20,992	712
Grunts	870	35					2,373	84
Hogfish							2,286	84
Jewfish	10,100	504					5,332	160
King whiting							2,481	215
Leather jacket or "turbot"	3,206	160						
Menhaden:								
Fresh	13,325	299						
Salted	4,360	174						
Moonfish	350	14						
Mullet:								
Fresh	302,999	13,627	133,575	5,281	1,120,219	50,372	5,629,366	231,136
Salted	896,626	68,213	77,840	4,800				
Mullet roe, salted	28,207	5,125	3,500	670				
Permit							3,773	135
Pigfish	650	26	100	4			2,000	65
Pompano:								
Fresh	10,678	1,654	3,030	456	250	50	121,893	11,867
Salted	3,075	520						
Porgies	33,957	1,358						
Redfish or red drum:								
Fresh	8,109	329	1,747	65	41,091	1,940	243,533	8,760
Salted	7,321	366						
Sailors choice					300	12	9,831	313
Scamp	300	10						
Sergeantfish or snook							27,840	900
Sheepshead	7,856	317	2,800	111	37,940	1,777	300,142	10,250
Snapper:								
Mangrove	970	38			7,930	317	34,249	1,268
Red	564,139	38,225					12,000	840
Spanish mackerel:								
Fresh	483,734	38,366	19,994	1,201			278,355	19,664
Salted	25,050	1,333						
Spot	1,570	63	550	16			6,420	210
Squeteagues or "sea trout":								
Fresh	110,157	11,103	19,237	1,493	101,083	9,216	483,167	43,574
Salted	1,125	112						
Yellowtail					1,500	60	1,527	49
Shrimp			15,741	354				
Oysters, market, public	11,760	630			35,000	2,000	7,560	450
Total	3,216,919	207,939	302,732	15,874	1,354,253	66,093	7,330,374	337,741

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Escambia County.		Franklin County.		Hernando County.		Hillsborough County.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	339		75				57	
On vessels transporting							1	
In shore fisheries	152		284		8		63	
Shoresmen	79		533				10	
Total	570		892		8		131	
INVESTMENT.								
Vessels fishing:								
Gasoline	3	$11,000	16	$32,930			1	$1,500
Tonnage	33		151				8	
Outfit		2,200		8,463				440
Sail	35	263,800	2	8,600			9	21,000
Tonnage	1,667		30				189	
Outfit		52,860		3,032				3,540
Vessels transporting:								
Gasoline							1	500
Tonnage							6	
Outfit								45
Boats, sail, row, etc	25	645	68	2,585	4	$100	44	1,360
Boats, power	55	31,200	109	69,687	2	500	23	6,600
Apparatus, vessel fisheries:								
Lines		3,580		724				442
Otter trawls			14	630				
Tongs			12	120				
Apparatus, shore fisheries:								
Seines	8	2,400	24	14,400			7	1,275
Gill nets	16	1,335	41	3,960	8	400	48	2,450
Trammel nets	29	2,900						
Stop nets							16	730
Otter trawls	9	360	98	4,410				
Lines		150		198				20
Tongs	14	117	205	2,025				
Other apparatus				10				
Shore and accessory property		75,611		219,740		100		12,925
Cash capital		15,700		77,150				7,000
Total		463,858		448,664		1,100		59,827
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Amberfish	9,000	$328	100	$5				
Angelfish	1,700	74			50	$2	485	$20
Black drum	2,000	80	600	19			1,050	31
Bluefish, fresh	31,710	1,902	14,171	820			50	4
Blue runner or hardtail, fresh	52,130	1,302	7,500	200				
Bonito	22,000	880						
Catfish			27,156	2,040				
Crevalle	18,000	720			290	12	2,456	118
Elops or ten pounder, fresh	138,000	2,760	37,000	700				
Flounders	7,300	365	8,142	537			600	31
Groupers	3,120,294	123,214	743,022	32,855			192,181	7,783
Grunts			3,350	144				
Jewfish	32,850	1,223	1,000	45				
King whiting	14,000	760	2,400	128			300	18
Leather jacket or "turbot"	2,600	104						
Menhaden, fresh	194,270	4,856	5,758	120				
Mullet:								
Fresh	615,095	36,905	620,713	29,578	198,000	7,920	830,243	34,761
Salted			113,020	9,251				
Mullet roe, salted			5,025	1,134				
Pigfish	2,000	80					135	6
Pompano, fresh	9,703	1,455	877	111			2,070	306
Porgies	9,885	364	3,200	138				
Redfish or red drum, fresh	16,000	640	13,049	584	4,570	182	28,500	1,165
Sea bass			720	48				
Sergeantfish or snook							7,700	352
Sheepshead	17,000	680	1,250	56	1,950	78	4,300	175
Snapper:								
Mangrove					298	12	11,810	544
Red	4,661,984	286,434	655,716	43,409			353,247	22,868
Spanish mackerel, fresh	124,076	8,065	53,809	3,219				
Spot	7,500	330	1,250	29			1,800	86
Squeteagues or "sea trout," fresh	17,802	1,957	40,718	3,152	4,980	398	35,300	2,424
Sturgeon	2,250	270	1,215	60				
Yellowtail	8,000	320					2,200	112
Shrimp	28,526	1,711	3,206,201	79,343				
Turtles	5,000	250						
Oysters, market, public	53,536	3,824	2,387,021	107,112				
Total	9,224,211	481,853	7,953,983	314,837	210,138	8,604	1,474,427	70,804

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Jefferson County.		Lafayette County.		Lee County.		Levy County.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels transporting					19			
In shore fisheries	10		26		274		138	
Shoresmen					53		15	
Total	10		26		346		153	
INVESTMENT.								
Vessels transporting:								
Gasoline					9	$37,000		
Tonnage					126			
Outfit						2,974		
Boats, sail, row, etc	10	$200	26	$545	240	7,520	109	$3,060
Boats, power	5	500	1	900	114	18,850	43	19,350
Apparatus, shore fisheries:								
Seines					14	5,600		
Gill nets	10	400	26	1,040	304	15,800	101	3,815
Trammel nets							45	2,450
Lines						42		200
Tongs					3	12	10	70
Other apparatus								12,000
Shore and accessory property		200		250		108,502		17,267
Cash capital						12,000		6,000
Total		1,300		2,735		208,300		64,212
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish					5,909	$202	1,800	$90
Black drum					5,675	135	5,500	225
Bluefish, fresh					16,765	1,508	6,200	496
Blue runner or hardtail, fresh					300	12	57,530	1,726
Catfish					1,000	45		
Crevalle					27,849	906	3,200	160
Elops or ten pounder, fresh					1,000	30		
Flounders					1,258	39	2,150	172
Groupers					3,571	117	231,930	8,277
Grunts					798	27	17,250	517
Hogfish					833	27		
Jewfish					11,280	226		
King whiting					2,047	180	6,800	408
Menhaden, fresh							10,000	500
Mullet:								
Fresh	72,000	$3,600	154,350	$7,718	3,930,564	156,226	1,200,154	60,008
Salted	31,500	2,205	72,615	5,083			5,000	350
Mullet roe, salted	1,230	230	1,250	250			1,700	340
Permit					1,592	51		
Pigfish					311	10		
Pompano, fresh					32,557	3,689	2,365	356
Redfish or red drum, fresh	850	42	4,150	208	156,759	5,115	173,855	8,693
Sailors choice					2,273	73	500	25
Sea bass							29,924	2,092
Sergeantfish or snook					14,292	428		
Sheepshead	230	11	2,000	100	304,068	9,880	142,539	2,128
Snapper:								
Mangrove			900	45	7,879	258	1,600	80
Red							3,000	240
Spanish mackerel, fresh					57,971	4,056	23,950	1,919
Spot					7,667	250	5,000	250
Squeteagues or "sea trout," fresh	1,200	96	8,000	640	255,255	21,192	56,967	4,557
Sturgeon							1,450	290
Sturgeon caviar							12	12
Yellowtail					658	20		
Terrapin							2,475	206
Turtles							8,500	620
Clams, hard					159,272	13,936		
Oysters, market:								
Public					10,509	600	35,840	2,048
Private							13,496	771
Total	107,010	6,184	243,265	14,044	5,019,903	219,238	2,050,687	97,556

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Manatee County.		Monroe County.		Okaloosa County.		Pasco County.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number*	*Value.*
On vessels fishing			95					
On vessels transporting	2		10					
In shore fisheries	234		322		109		30	
Shoresmen	26		31					
Total	262		458		109		30	
INVESTMENT.								
Vessels fishing:								
Gasoline			7	$15,800				
Tonnage			74					
Outfit				3,500				
Sail			13	7,800				
Tonnage			121					
Outfit				9,360				
Vessels transporting:								
Gasoline	1	$1,500	7	13,200				
Tonnage	8		104					
Outfit		150		1,250				
Boats, sail, row, etc	193	5,970	231	23,375	57	$1,175	19	$475
Boats, power	93	23,350	82	49,550	33	14,600	8	2,500
Apparatus, vessel fisheries:								
Seines			1	1,600				
Gill nets			6	120				
Dip nets			2	2				
Lines				43				
Sponge apparatus				210				
Apparatus, shore fisheries:								
Seines	32	9,025			7	2,800		
Gill nets	291	19,380	51	6,870	6	450	30	1,500
Trammel nets					25	2,500		
Stop nets	59	2,850						
Dip nets			20	20				
Lines		68		470				
Tongs	6	36						
Other apparatus		3		552				
Shore and accessory property		17,100		56,287		750		100
Cash capital		15,500		14,000				
Total		94,932		204,009		22,275		4,575
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds*	*Value.*
Amberfish			2,000	$80				
Angelfish	2,000	$80	800	48				
Barracuda			4,860	232				
Black drum	14,890	357	500	10	280	$11		
Bluefish, fresh	10,184	951	16,614	1,540	12,958	778	550	$44
Blue runner or hardtail, fresh			11,000	420	29,673	742		
Bonito			350	21	2,708	108		
Catfish					1,271	51		
Cero and kingfish	42,367	2,542	394,945	27,619				
Cowfish and "shellfish"			300	12				
Crevalle	5,732	229	300	15	878	35	275	10
Elops or ten-pounder:								
Fresh	3,725	100			72,752	1,455		
Salted					6,073	182		
Flounders	2,930	118			600	30		
Groupers	24,280	961	54,144	2,889				
Grunts	7,287	219	30,300	1,698				
Hogfish	325	13	2,700	162				
Jewfish			9,000	540				
King whiting	3,945	234			3,215	183		
Leather jacket or "turbot"			1,500	75				
Menhaden:								
Fresh					40,177	1,004		
Salted					16,662	495		
Moonfish			300	9				
Mullet:								
Fresh	3,250,926	143,800	112,313	4,531	201,688	12,101	863,000	36,655
Salted					456,459	36,516		

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Manatee County.		Monroe County.		Okaloosa County.		Pasco County.	
PRODUCTS continued.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Permit	600	$24	1,400	$64	.....	.....	.....	.....
Pigfish	1,400	59	.....	.....	.....	.....	.....	.....
Pompano, fresh	28,343	3,665	545	101	8,909	$1,336	.....	.....
Porgies	.....	.....	9,700	582	.....	.....	.....	.....
Porkfish	.....	.....	2,400	144	.....	.....	.....	.....
Redfish or red drum, fresh	191,020	7,840	100	3	2,893	116	2,925	$128
Sailors choice	1,028	41	2,200	110	.....	.....	.....	.....
Sergeantfish or snook	15,913	578	.....	.....	.....	.....	.....	.....
Sheepshead	133,850	5,566	300	12	3,701	148	875	35
Snapper:								
Mangrove	18,513	739	9,500	550	.....	.....	980	39
Mutton	.....	.....	14,100	564	.....	.....	.....	.....
Red	.....	.....	9,000	630	.....	.....	.....	.....
Spanish mackerel:								
Fresh	147,463	12,884	2,065,276	144,610	145,147	9,436	.....	.....
Salted	.....	.....	.....	.....	2,150	172	.....	.....
Spot	1,840	79	.....	.....	450	22	.....	.....
Squeteagues or "sea trout":								
Fresh	182,338	17,686	.....	.....	51,450	5,163	8,635	691
Salted	.....	.....	.....	.....	30,500	3,660	.....	.....
Tang	.....	.....	600	30	.....	.....	.....	.....
Tarpon	.....	.....	1,800	180	.....	.....	.....	.....
Yellowtail	5,350	226	12,500	750	.....	.....	.....	.....
Sea crawfish	.....	.....	322,015	16,064	.....	.....	.....	.....
Crabs, stone	2,000	100	.....	.....	.....	.....	.....	.....
Turtles	.....	.....	49,250	3,398	1,920	96	.....	.....
Clams, hard	1,600	400	.....	.....	.....	.....	.....	.....
Oysters, market, public	875	75	.....	.....	.....	.....	.....	.....
Conch	.....	.....	2,000	100	.....	.....	.....	.....
Sponges:								
Glove	.....	.....	2,022	245	.....	.....	.....	.....
Grass	.....	.....	28,963	3,311	.....	.....	.....	.....
Sheepswool	.....	.....	55,281	73,012	.....	.....	.....	.....
Yellow	.....	.....	21,477	5,809	.....	.....	.....	.....
Total	4,100,724	199,166	3,752,355	290,170	1,092,514	73,840	877,240	37,602

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Pinellas County.		Santa Rosa County.		Taylor County.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	35					
On vessels transporting	16					
In shore fisheries	942		32		45	
Total	993		32		45	
INVESTMENT.						
Vessels fishing:						
Gasoline	2	$15,000				
Tonnage	24					
Outfit		5,067				
Sail	3	8,600				
Tonnage	62					
Outfit		2,728				
Vessels transporting:						
Gasoline	8	14,100				
Tonnage	73					
Outfit		2,025				
Sail	50	80,650				
Tonnage	1,025					
Boats, sail, row, etc	330	51,675	9	$225	45	$900
Boats, power	152	114,100	16	2,850	10	1,400
Apparatus, vessel fisheries, lines		350				
Apparatus, shore fisheries:						
Seines	12	3,400				
Gill nets	191	10,150				
Trammel nets	16	1,600	9	1,000	45	1,800
Stop nets	10	500				
Lines		590				
Tongs	1	5	20	155		
Sponge apparatus		70,935				
Other apparatus		8				
Shore and accessory property		46,128		150		1,150
Cash capital		16,500				300
Total		444,111		4,380		5,550
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish	2,365	$75				
Bluefish, fresh	2,507	213				
Cero and kingfish	25,537	1,502				
Crevalle	4,020	131				
Elops or ten-pounder, fresh	208	4				
Flounders	3,535	158	300	$30		
Groupers	908,179	32,049				
Grunts	25,121	894				
Hogfish	1,000	40	200	10		
Jewfish	282	6				
Leather jacket or "turbot"	450	18				
Mullet:						
Fresh	2,598,083	103,546	120,000	6,000	285,850	$13,227
Salted			9,000	720	133,120	9,317
Mullet roe, salted					5,975	925
Permit	500	20				
Pompano, fresh	14,772	2,216				
Redfish or red drum, fresh	27,959	1,293	1,000	50	8,150	410
Sailors choice	4,600	217				
Sea bass	1,000	40				
Sergeantfish or snook	8,000	310				
Sheepshead	18,456	860	1,800	90	1,955	98
Snapper:						
Mangrove	8,470	428				
Red	971,082	62,994				
Spanish mackerel, fresh	8,176	538				
Spot	1,580	69	1,500	75	350	17
Squeteagues or "sea trout," fresh	144,323	12,108	25,000	2,500	10,220	818
Crabs, stone	22,500	2,500				
Oysters, market, public	4,354	310	56,000	4,000		
Sponges:						
Grass	44,070	8,814				
Sheepswool	220,887	602,769				
Wire	9,324	2,817				
Yellow	70,164	28,378				
Total	5,151,504	865,317	214,800	13,475	445,620	24,812

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Wakulla County.		Walton County.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing					623	
On vessels transporting					70	
In shore fisheries	169		3		3,600	
Shoresmen					868	
Total	169		3		5,161	
INVESTMENT.						
Vessels fishing:						
Gasoline					33	$92,630
Tonnage					360	
Outfit						27,043
Sail					62	309,800
Tonnage					2,069	
Outfit						71,520
Vessels transporting:						
Gasoline					34	105,800
Tonnage					455	
Outfit						22,444
Sail					50	80,650
Tonnage					1,025	
Boats, sail, row, etc	96	$1,980	1	$25	2,019	128,900
Boats, power	20	6,500	1	200	1,018	438,962
Apparatus, vessel fisheries:						
Seines					1	1,600
Gill nets					6	120
Dip nets					2	2
Lines						5,379
Otter trawls					16	720
Tongs					12	120
Sponge apparatus						210
Apparatus, shore fisheries:						
Seines	6	1,200	1	125	163	61,175
Gill nets	92	3,650			1,795	106,070
Trammel nets	22	1,540			146	11,990
Stop nets					136	6,810
Otter trawls					107	4,770
Dip nets					20	20
Lines						2,046
Tongs					284	2,616
Sponge apparatus						70,935
Other apparatus						12,576
Shore and accessory property		4,175				619,987
Cash capital		2,500				219,350
Total		21,545		350		2,404,245
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Amberfish					11,100	$413
Angelfish	150	$7			20,825	798
Barracuda					4,860	232
Black drum	1,500	60			57,420	1,735
Bluefish:						
Fresh	350	32			246,168	17,411
Salted					12,240	915
Blue runner or hardtail:						
Fresh	600	27			324,648	6,935
Salted					65,430	2,734
Bonito					50,955	2,045
Catfish					51,427	3,126
Cero and kingfish					465,860	31,903
Cowfish and "shellfish"					300	12
Crevalle	1,050	48			105,927	3,800
Elops or ten-pounder:						
Fresh					267,940	5,402
Salted					9,883	334
Flounders	3,600	324			37,381	2,089
Groupers					5,626,329	222,215
Grunts					87,349	3,618
Hogfish					7,344	336
Jewfish					69,844	2,704
King whiting					35,188	2,126
Leather jacket or "turbot"					7,756	357

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Wakulla County.		Walton County.		Total.	
PRODUCTS—continued.						
Menhaden:	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Fresh					263,530	$6,779
Salted					21,022	669
Moonfish					650	23
Mullet:						
Fresh	321,598	$15,597	9,000	$540	22,569,736	973,129
Salted	658,750	41,519			2,453,930	177,974
Mullet roe, salted	39,398	8,919			86,285	17,593
Permit					7,865	294
Pigfish					6,596	250
Pompano:						
Fresh					235,992	27,262
Salted					3,075	520
Porgies					56,742	2,442
Porkfish					2,400	144
Redfish or red drum:						
Fresh	11,230	505			937,490	38,068
Salted					7,321	366
Sailors choice	400	18			21,132	809
Scamp					300	10
Sea bass					31,644	2,180
Sergeantfish or snook					73,745	2,568
Sheepshead	5,650	255			988,662	32,627
Snapper:						
Mangrove	900	41			103,999	4,359
Mutton					14,100	564
Red					7,230,168	455,640
Spanish mackerel:						
Fresh	750	68			3,408,701	244,026
Salted					27,200	1,505
Spot	500	23			37,977	1,519
Squeteagues or "sea trout":						
Fresh	71,854	6,406	3,000	300	1,630,686	145,534
Salted					31,625	3,772
Sturgeon					4,915	620
Sturgeon caviar					12	12
Tang					600	30
Tarpon					1,800	180
Yellowtail					31,735	1,537
Shrimp					3,250,468	81,408
Sea crawfish					322,015	16,064
Crabs, stone					[1] 24,500	2,600
Terrapin					2,475	206
Turtles	600	60	100	5	65,370	4,429
Clams, hard					[2] 160,872	14,336
Oysters, market:						
Public					[3] 2,602,446	121,049
Private					[4] 13,496	771
Conch					2,000	100
Sponges:						
Glove					2,022	245
Grass					73,033	12,125
Sheepswool					276,168	675,781
Wire					9,324	2,817
Yellow					91,641	34,187
Total	1,118,880	73,969	12,100	845	54,753,639	3,420,363

[1] Represents 18,375 in number.
[2] Represents 20,109 bushels.
[3] Represents 371,778 bushels.
[4] Represents 1,928 bushels.

FISHERIES, BY APPARATUS.

In the vessel fisheries of western Florida, in which seven counties are represented, the forms of apparatus in use included haul seines, gill nets, otter trawls, lines, dip nets, sponge apparatus, and oyster tongs. The total yield from all forms of apparatus used on vessels was 10,941,646 pounds, valued at $605,899. The catch with lines was 10,276,677 pounds, valued at $546,040, of which 6,011,297 pounds, valued at $373,124, were red snapper, and 4,162,160 pounds, valued at $167,977, were groupers. The catch of shrimp with otter trawls, which are rapidly supplanting haul seines in this fishery, amounted to 343,219 pounds, with a value of $8,701. Bluefish, mullet, pompano, and Spanish mackerel were taken with seines to the amount of 133,848 pounds, valued at $9,374; oysters with tongs, 76,461 pounds, valued at $4,822; sponges with sponge apparatus, 43,191 pounds, valued at $32,952; turtles with gill nets, 40,250 pounds, valued at $2,610, and sea crawfish with dip nets, 28,000 pounds, valued at $1,400. Vessel operations with seines, gill nets, dip nets, and sponge apparatus were confined to Monroe County.

In the shore or boat fisheries, gill nets were the most productive form of apparatus, the catch amounting to 20,068,013 pounds, valued at $1,009,315. Mullet was the principal species taken, amounting to 15,340,486 pounds, valued at $674,949. The catch with seines was 8,535,648 pounds, valued at $440,971. The mullet is again the principal species, other important species being Spanish mackerel, squeteagues, and sheepshead.

As in 1902, the stop-net fisheries ranked third in quantity of products, the catch amounting to 3,632,397 pounds, valued at $151,077. The principal species taken in this fishery were mullet, redfish, and sheepshead. The catch with lines was 3,582,153 pounds, valued at $195,560, the principal species taken by this apparatus being red snapper and groupers. The catch with otter trawls, confined to shrimp, was 2,907,249 pounds, valued at $72,707; of oysters with tongs, 2,539,481 pounds, valued at $116,998; with trammel nets made up of miscellaneous species, 1,499,550 pounds, valued at $95,334; of sponges with sponge apparatus, 408,997 pounds, valued at $692,203; of sea crawfish with dip nets, 283,915 pounds, valued at $14,164; and with other minor apparatus, 354,590 pounds, valued at $26,135. The total yield from all forms of apparatus used in the shore or boat fisheries was 43,811,993 pounds, valued at $2,814,464.

The products of the vessel and shore or boat fisheries are shown separately by counties in the following tables:

YIELD OF VESSEL FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Bay.		Calhoun.		Escambia.		Franklin.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Otter trawls: Shrimp	.....	.....	15,741	$354	.....	.....	327,478	$8,347
Lines:								
Amberfish	.....	.....	.....	.....	9,000	$328	100	5
Groupers	189,091	$7,466	.....	.....	3,081,257	122,070	621,075	27,851
Grunts	870	35	.....	.....	.....	.....	3,350	144
Jewfish	10,100	504	.....	.....	32,000	1,189	1,000	45
King whiting	.....	.....	.....	.....	.....	.....	300	12
Leatherjacket or "turbot"	.....	.....	.....	.....	2,000	80	.....	.....
Porgies	1,050	42	.....	.....	9,200	340	2,650	116
Scamp	300	10	.....	.....	.....	.....	.....	.....
Sea bass	.....	.....	.....	.....	.....	.....	450	29
Snapper: Red	216,461	15,626	.....	.....	4,580,077	281,732	563,326	36,966
Total	417,872	23,683	.....	.....	7,713,534	405,739	1,192,251	65,168
Tongs: Oysters, market, public	.....	.....	.....	.....	.....	.....	76,461	4,822
Grand total	417,872	23,683	15,741	354	7,713,534	405,739	1,596,190	78,337

Apparatus and species.	Hillsboro.		Monroe.		Pinellas.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:								
Bluefish	.....	.....	4,014	$280	.....	.....	4,014	$280
Mullet	.....	.....	7,313	511	.....	.....	7,313	511
Pompano	.....	.....	35	7	.....	.....	35	7
Spanish mackerel	.....	.....	122,486	8,576	.....	.....	122,486	8,576
Total	.....	.....	133,848	9,374	.....	.....	133,848	9,374
Gill nets: Turtles	.....	.....	40,250	2,610	.....	.....	40,250	2,610
Otter trawls: Shrimp	.....	.....	.....	.....	.....	.....	343,219	8,701
Lines:								
Amberfish	.....	.....	.....	.....	.....	.....	9,100	333
Cero and kingfish	.....	.....	28,750	1,976	.....	.....	28,750	1,976
Groupers	183,792	$7,447	4,000	240	82,945	$2,903	4,162,160	167,977
Grunts	.....	.....	.....	.....	.....	.....	4,220	179
Jewfish	.....	.....	.....	.....	.....	.....	43,100	1,738
King whiting	.....	.....	.....	.....	.....	.....	300	12
Leatherjacket or "turbot"	.....	.....	.....	.....	.....	.....	2,000	80
Porgies	.....	.....	.....	.....	.....	.....	12,900	498
Scamp	.....	.....	.....	.....	.....	.....	300	10
Sea bass	.....	.....	.....	.....	.....	.....	450	29
Snapper—								
Mutton	.....	.....	2,100	84	.....	.....	2,100	84
Red	344,797	22,277	.....	.....	306,636	16,523	6,011,297	373,124
Total	528,589	29,724	34,850	2,300	389,581	19,426	10,276,677	546,040
Dip nets: Sea crawfish	.....	.....	28,000	1,400	.....	.....	28,000	1,400
Sponge apparatus:								
Sponge—								
Glove	.....	.....	801	98	.....	.....	801	98
Grass	.....	.....	11,585	1,325	.....	.....	11,585	1,325
Sheepswool	.....	.....	22,213	29,205	.....	.....	22,213	29,205
Yellow	.....	.....	8,592	2,324	.....	.....	8,592	2,324
Total	.....	.....	43,191	32,952	.....	.....	43,191	32,952
Tongs: Oysters, market, public	.....	.....	.....	.....	.....	.....	76,461	4,822
Grand total	528,589	29,724	280,139	48,636	389,581	19,426	10,941,646	605,899

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS, COUNTIES, AND SPECIES.

BY SEINES.

Species.	Bay.		Calhoun.		De Soto.		Escambia.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish							850	$37
Black drum	275	$11			5,200	$156	1,000	40
Bluefish:								
Fresh	65,426	3,892	18,518	$1,067			61,710	1,902
Salted	12,240	915						
Blue runner, or hardtail:								
Fresh	150,703	2,261					50,130	1,252
Salted	52,810	2,010						
Bonito	23,897	956					22,000	880
Catfish					17,600	792		
Crevalle					8,625	280	18,000	720
Elops, or ten-pounder:								
Fresh	10,225	204			1,000	33	138,000	2,760
Salted	3,810	152						
Flounders	679	34	1,000	50	3,112	95	4,000	200
Grunts					789	26		
Hogfish					1,250	40		
King whiting					612	54	12,000	640
Menhaden:								
Fresh	13,325	299					145,702	3,642
Salted	4,360	174						
Moonfish	350	14						
Mullet:								
Fresh	259,960	11,696	63,075	2,132	874,340	34,973	184,460	11,067
Salted	815,820	62,104	77,840	4,800				
Mullet roe, salted	25,468	4,642	3,500	670				
Permit					1,416	46		
Pigfish	650	26			1,250	40	1,000	40
Pompano:								
Fresh	10,628	1,645	2,080	313	20,466	2,255	5,000	750
Salted	3,075	520						
Redfish, or red drum:								
Fresh	7,439	301	1,747	65	21,551	700	8,000	320
Salted	7,321	366						
Sailors choice					6,000	180		
Sergeantfish, or snook					25,650	834		
Sheepshead	6,757	270	1,000	30	50,084	1,627	9,000	360
Snapper, mangrove	430	17			8,208	267		
Spanish mackerel:								
Fresh	392,718	31,136	8,494	511			36,798	2,392
Salted	23,650	1,263						
Spot	1,570	63	550	16	5,136	167	1,500	90
Squeteagues, or "sea trout"	72,846	7,065	6,537	477	87,064	7,835	1,910	210
Yellowtail					1,125	33	8,000	320
Turtles							5,000	250
Total	1,966,432	132,036	184,341	10,131	1,140,478	50,433	684,060	27,872

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY SEINES—Continued.

Species.	Franklin.		Hillsborough.		Lee.		Manatee.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish					4,003	$139	850	$34
Black drum	600	$19			4,625	115	13,890	312
Bluefish, fresh	14,171	820			7,602	684		
Blue runner, or hardtail, fresh	7,500	200			300	12		
Catfish					1,000	45		
Crevalle			200	$10	17,972	584	1,932	77
Elops, or ten-pounder, fresh	37,000	700			500	15	1,800	48
Flounders			250	13	1,258	39	2,930	118
Groupers					3,571	117		
Grunts					798	27	2,500	75
Hogfish					833	27	325	13
King whiting	2,100	116			818	72	1,370	80
Menhaden, fresh	5,000	100						
Mullet:								
Fresh	355,469	15,996	85,350	4,289	1,423,513	56,945	524,648	23,182
Salted	20,000	2,000						
Mullet roe, salted	2,500	625						
Permit					1,402	45	360	14
Pigfish					311	10	900	39
Pompano, fresh	760	96			11,657	1,317	1,800	270
Redfish, or red drum, fresh	12,414	558	600	28	120,267	3,909	33,245	1,409
Sailors choice					2,273	73	778	31
Sergeantfish, or snook			3,150	172	14,292	428	15,913	578
Sheepshead	1,200	54	100	7	146,606	4,764	45,985	1,941
Snapper, mangrove			50	2	5,525	181	10,836	433
Spanish mackerel, fresh	53,809	3,219			8,753	612		
Spot	1,250	29	425	21	5,470	177	1,642	71
Squeteagues, or "sea trout"	27,603	2,208	300	24	44,012	2,713	24,590	2,254
Yellowtail			2,200	112	565	17	5,350	226
Total	541,376	26,740	92,625	4,678	1,827,926	74,067	691,644	31,205

Species.	Okaloosa.		Pinellas.		Wakulla.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish			400	$12		
Black drum	280	$11				
Bluefish, fresh	12,858	772				
Blue runner, or hardtail, fresh	29,673	742				
Bonito	2,708	108				
Catfish	1,271	51				
Crevalle	478	19	400	16		
Elops, or ten-pounder:						
Fresh	72,752	1,455	208	4		
Salted	6,073	182				
Flounders	600	30	2,500	117		
Hogfish			500	20		
King whiting	3,215	183				
Menhaden:						
Fresh	40,177	1,004				
Salted	16,662	495				
Mullet:						
Fresh	145,438	8,726	365,329	15,439	75,000	$4,500
Salted	99,959	7,996			295,000	20,650
Mullet roe, salted					33,300	7,500
Permit			250	10		
Pompano, fresh	8,909	1,336				
Redfish, or red drum, fresh	893	36	2,413	114		
Sailors choice			3,300	159		
Sergeantfish, or snook			8,000	310		
Sheepshead	1,901	76	1,556	75		
Snapper, mangrove			500	25		
Spanish mackerel, fresh	143,747	9,343				
Spot	450	22	1,380	59		
Squeteagues, or "sea trout"	1,450	163	13,216	1,108		
Turtles	1,920	96				
Total	591,414	32,846	399,952	17,468	403,300	32,650

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918 BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY SEINES—Continued.

Species.	Walton.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*
Angelfish			6,103	$222
Black drum			25,870	664
Bluefish:				
Fresh			150,285	9,137
Salted			12,240	915
Blue runner, or hardtail:				
Fresh			238,306	4,467
Salted			52,810	2,010
Bonito			48,605	1,944
Catfish			19,871	888
Crevalle			47,607	1,706
Elops, or ten-pounder:				
Fresh			261,485	5,219
Salted			9,883	334
Flounders			16,329	696
Groupers			3,571	117
Grunts			4,087	128
Hogfish			2,908	100
King whiting			20,115	1,145
Menhaden:				
Fresh			204,204	5,045
Salted			21,022	669
Moonfish			350	14
Mullet:				
Fresh	9,000	$540	4,365,582	189,485
Salted			1,308,619	97,550
Mullet roe, salted			64,768	13,437
Permit			3,428	115
Pigfish			4,111	155
Pompano:				
Fresh			61,300	7,982
Salted			3,075	520
Redfish, or red drum:				
Fresh			208,569	7,440
Salted			7,321	366
Sailors choice			12,351	443
Sergeantfish, or snook			67,005	2,322
Sheepshead			264,189	9,204
Snapper, mangrove			25,549	925
Spanish mackerel:				
Fresh			644,319	47,213
Salted			23,650	1,263
Spot			19,373	715
Squeteagues, or "sea trout"	3,000	300	282,528	25,357
Yellowtail			17,240	708
Turtles	100	5	7,020	351
Total	12,100	845	8,535,648	440,971

BY TRAMMEL NETS.

Species.	Escambia County.		Levy County.		Okaloosa County.		Pinellas County.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish	850	$37	200	$10				
Black drum	1,000	40	5,500	225				
Bluefish			300	24	100	$6		
Blue runner or hardtail	2,000	50						
Crevalle			1,050	52	400	16		
Flounders	3,300	165	825	66				
King whiting	2,000	120						
Mullet:								
Fresh	430,635	25,838			56,250	3,375		
Salted					318,000	25,440		
Permit							250	$10
Pigfish	1,000	40						
Pompano	3,703	555	1,950	293			8,794	1,319
Redfish or red drum	8,000	320	121,916	6,095	2,000	80	1,555	70
Sailors choice			300	15				
Sheepshead	8,000	320	126,274	1,314	1,800	72	4,115	205
Snapper, mangrove			1,400	70				
Spanish mackerel	1,650	107			500	35		
Spot	6,000	240						
Squeteagues or "sea trout":								
Fresh	13,642	1,500			50,000	5,000	18,437	1,561
Salted					30,000	3,600		
Total	481,780	29,332	259,715	8,164	459,050	37,624	33,151	3,165

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY TRAMMEL NETS—Continued.

Species.	Santa Rosa County.		Wakulla County.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish					1,050	$47
Black drum			1,100	$44	7,600	309
Bluefish					400	30
Blue runner or hardtail					2,000	50
Crevalle			250	12	1,700	80
Flounders	300	$30	2,700	243	7,125	504
Hogfish	200	10			200	10
King whiting					2,000	120
Mullet:						
Fresh	120,000	6,000	33,800	1,521	640,685	36,734
Salted	9,000	720			327,000	26,160
Permit					250	10
Pigfish					1,000	40
Pompano					14,447	2,167
Redfish or red drum	1,000	50	7,120	320	141,591	6,935
Sailors choice			200	9	500	24
Sheepshead	1,800	90	2,725	123	144,714	2,124
Snapper, mangrove			500	23	1,900	93
Spanish mackerel			150	14	2,300	156
Spot	1,500	75			7,500	315
Squeteagues or "sea trout":						
Fresh	25,000	2,500	58,509	5,265	165,588	15,826
Salted					30,000	3,600
Total	158,800	9,475	107,054	7,574	1,499,550	95,334

BY GILL NETS.

Species.	Bay.		Calhoun.		Citrus.		De Soto.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish					310	$14		
Black drum					7,350	262		
Bluefish	6,817	$413	4,950	$300	490	40	37,908	$3,411
Blue runner or hardtail:								
Fresh	14,612	221					600	24
Salted	12,620	724						
Bonito	2,000	80						
Catfish							4,400	198
Crevalle					590	25	10,321	348
Elops or ten-pounder	750	15					3,280	101
Flounders			150	6	200	8		
King whiting							1,352	116
Mullet:								
Fresh	43,039	1,931	70,500	3,149	1,120,219	50,372	3,136,602	129,892
Salted	80,806	6,109						
Mullet roe, salted	2,739	483						
Permit							1,182	44
Pigfish			100	4				
Pompano	50	9	950	143	250	50	101,221	9,585
Redfish or red drum	670	28			41,091	1,940	81,161	3,187
Sailors choice					300	12		
Sheepshead	1,099	47	1,800	81	36,590	1,724	83,407	2,959
Snapper, mangrove					7,930	317	14,533	551
Spanish mackerel:								
Fresh	91,016	7,230	11,500	690			278,355	19,664
Salted	1,400	70						
Spot							1,284	43
Squeteagues or "sea trout":								
Fresh	37,311	4,038	12,700	1,016	92,440	8,421	328,842	29,595
Salted	1,125	112						
Yellowtail							182	7
Total	296,054	21,510	102,650	5,389	1,307,760	63,185	4,084,630	199,725

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY GILL NETS—Continued.

Species.	Escambia.		Franklin.		Hernando.		Hillsborough.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish					50	$2	250	$10
Bluefish							50	4
Catfish			2,850	$112				
Crevalle					290	12	300	15
Flounders			4,142	217				
King whiting							300	18
Menhaden	48,568	$1,214	758	20				
Mullet:								
Fresh			265,244	13,582	198,000	7,920	592,493	24,276
Salted			93,020	7,251				
Mullet roe, salted			2,525	509				
Pompano	1,000	150	117	15			2,070	306
Redfish or red drum			635	26	4,570	182	12,900	537
Sheepshead			50	2	1,950	78	2,250	92
Snapper, mangrove					298	12	7,560	345
Spanish mackerel, fresh	85,628	5,566						
Spot							875	43
Squeteagues or "sea trout," fresh	2,250	247	13,115	944	4,980	398	35,000	2,400
Sturgeon	2,250	270	1,215	60				
Total	139,696	7,447	383,671	22,738	210,138	8,604	654,048	28,046

Species.	Jefferson.		Lafayette.		Lee.		Levy.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish					1,906	$63		
Black drum					1,050	20		
Bluefish					9,163	824	400	$32
Crevalle					9,877	322		
Elops or ten-pounder					500	15		
Flounders							1,325	106
King whiting					1,229	108		
Mullet:								
Fresh	72,000	$3,600	154,350	$7,718	2,507,051	99,281	1,200,154	60,008
Salted	31,500	2,205	72,615	5,083			5,000	350
Mullet roe, salted	1,230	230	1,250	250			1,700	340
Permit					190	6		
Pompano					20,900	2,372		
Redfish or red drum	850	42	4,150	208	36,492	1,206	42,389	2,120
Sailors choice							200	10
Sheepshead	230	11	2,000	100	157,462	5,116	14,265	714
Snapper, mangrove			900	45	2,354	77	200	10
Spanish mackerel, fresh					49,218	3,444	335	30
Spot					2,197	73		
Squeteagues or "sea trout," fresh	1,200	96	8,000	640	183,518	15,262	37,569	3,005
Sturgeon							1,450	290
Sturgeon, caviar							12	12
Yellowtail					93	3		
Turtles							8,500	620
Total	107,010	6,184	243,265	14,044	2,983,200	128,192	1,313,499	67,647

Species.	Manatee.		Monroe.		Okaloosa.		Pasco.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish	425	$17						
Black drum			500	$10				
Bluefish	10,184	951	12,000	1,200				
Blue runner or hardtail, fresh			2,000	60			550	$44
Crevalle	1,200	48						
Elops or ten-pounder	1,325	40					275	10
King whiting	375	22						
Mullet:								
Fresh	1,810,423	79,811	105,000	4,020				
Salted							863,000	36,655
Permit	120	5			38,500	$3,080		
Pompano	26,393	3,375	160	24				
Redfish or red drum	38,409	1,617	100	3				
Sheepshead	28,813	1,252	300	12			2,925	128
Snapper, mangrove	6,147	245	1,000	40			875	35
Spanish mackerel:							980	39
Fresh	147,463	12,884	1,938,890	135,722	900	58		
Salted					2,150	172		
Squeteagues or "sea trout":								
Fresh	135,068	13,270						
Salted							8,635	691
Turtles					500	60		
			9,000	788				
Total	2,206,345	113,537	2,068,950	141,879	42,050	3,370	877,240	37,602

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY GILL NETS—Continued.

Species.	Pinellas.		Taylor.		Wakulla.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish	365	$15	.....	.....	150	$7	3,456	$128
Black drum	.....	.....	.....	.....	400	16	9,300	308
Bluefish	507	43	.....	.....	350	32	83,369	7,294
Blue runner or hardtail:								
Fresh	.....	.....	.....	.....	600	27	17,812	332
Salted	.....	.....	.....	.....	.....	.....	12,620	724
Bonito	.....	.....	.....	.....	.....	.....	2,000	80
Catfish	.....	.....	.....	.....	.....	.....	7,250	310
Crevalle	3,420	107	.....	.....	800	36	27,073	923
Elops or ten-pounder	.....	.....	.....	.....	.....	.....	5,855	171
Flounders	535	23	.....	.....	900	81	7,252	441
King whiting	.....	.....	.....	.....	.....	.....	3,256	264
Menhaden	.....	.....	.....	.....	.....	.....	49,326	1,234
Mullet:								
Fresh	1,863,935	71,511	285,850	$13,227	212,798	9,576	14,500,658	616,529
Salted	.....	.....	133,120	9,317	363,750	20,869	818,311	54,264
Mullet roe, salted	.....	.....	5,975	925	6,098	1,419	21,517	4,156
Permit	.....	.....	.....	.....	.....	.....	1,492	55
Pigfish	.....	.....	.....	.....	.....	.....	100	4
Pompano	5,978	897	.....	.....	.....	.....	159,089	16,926
Redfish or red drum	13,000	614	8,150	410	4,110	185	291,602	12,433
Sailors choice	.....	.....	.....	.....	200	9	700	31
Sheepshead	3,447	160	1,955	98	2,925	132	339,418	12,613
Snapper, mangrove	5,400	265	.....	.....	400	18	47,702	1,964
Spanish mackerel:								
Fresh	8,176	538	.....	.....	600	54	2,612,081	185,880
Salted	.....	.....	.....	.....	.....	.....	3,550	242
Spot	200	10	350	17	500	23	5,406	209
Squeteagues or "sea trout":								
Fresh	88,698	7,476	10,220	818	13,345	1,201	1,012,891	89,518
Salted	.....	.....	.....	.....	.....	.....	1,625	172
Sturgeon	.....	.....	.....	.....	.....	.....	4,915	620
Sturgeon, caviar	.....	.....	.....	.....	.....	.....	12	12
Yellowtail	.....	.....	.....	.....	.....	.....	275	10
Turtles	.....	.....	.....	.....	600	60	18,100	1,468
Total	1,993,661	81,659	445,620	24,812	608,526	33,745	20,068,013	1,009,315

BY STOP NETS.

Species.	De Soto.		Hillsborough.		Manatee.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish	5,256	$186	235	$10	725	$29
Black drum	12,600	378	1,050	31	1,000	45
Crevalle	22,341	763	1,956	93	2,600	104
Elops or ten-pounder	.....	.....	.....	.....	600	12
Flounders	.....	.....	350	18	.....	.....
Groupers	8,992	292	.....	.....	.....	.....
Grunts	789	26	.....	.....	2,500	75
Hogfish	1,036	44	.....	.....	.....	.....
King whiting	517	45	.....	.....	2,200	132
Mullet	1,618,424	66,271	152,400	6,196	915,855	40,807
Permit	1,175	45	.....	.....	120	5
Pigfish	750	25	135	6	500	20
Pompano	206	27	.....	.....	150	20
Redfish or red drum	119,701	4,029	15,000	600	119,366	4,814
Sailors choice	3,831	133	.....	.....	250	10
Sergeantfish or snook	.....	.....	4,550	180	.....	.....
Sheepshead	150,151	5,004	1,950	76	59,052	2,373
Snapper, mangrove	1,618	55	4,200	197	1,530	61
Spot	.....	.....	500	22	198	8
Yellowtail	220	9	.....	.....	.....	.....
Total	1,947,607	77,332	182,326	7,429	1,106,646	48,515

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY STOP NETS—Continued.

Species.	Pinellas.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*
Angelfish	1,600	$48	7,816	$273
Black drum	.....	.....	14,650	454
Crevalle	200	8	27,097	968
Elops or ten-pounder	.....	.....	600	12
Flounders	500	18	850	36
Groupers	.....	.....	8,992	292
Grunts	.....	.....	3,289	101
Hogfish	500	20	1,536	64
King whiting	.....	.....	2,717	177
Mullet	368,819	16,596	3,055,498	129,870
Permit	.....	.....	1,295	50
Pigfish	.....	.....	1,385	51
Pompano	.....	.....	356	47
Redfish or red drum	10,991	495	265,058	9,938
Sailors choice	1,300	58	5,381	201
Sergeantfish or snook	.....	.....	4,550	180
Sheepshead	9,338	420	220,491	7,873
Snapper, mangrove	2,570	138	9,918	451
Spot	.....	.....	698	30
Yellowtail	.....	.....	220	9
Total	395,818	17,801	3,632,397	151,077

BY LINES.

Species.	Bay County.		Citrus County.		De Soto County.		Escambia County.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Cero and kingfish	.....	.....	.....	.....	3,011	$240	.....	.....
Groupers	138,645	$5,892	.....	.....	12,000	420	39,037	$1,144
Grunts	.....	.....	.....	.....	795	32	.....	.....
Jewfish	.....	.....	.....	.....	5,332	160	850	34
Leather jacket or "turbot"	3,106	160	.....	.....	.....	.....	600	24
Porgy	32,907	1,316	.....	.....	.....	.....	685	24
Redfish or red drum	.....	.....	.....	.....	21,120	844	.....	.....
Sergeantfish or snook	.....	.....	.....	.....	2,190	66	.....	.....
Sheepshead	.....	.....	1,350	$53	16,500	660	.....	.....
Snapper:								
Mangrove	540	21	.....	.....	9,890	395	.....	.....
Red	347,678	22,599	.....	.....	12,000	840	81,907	4,702
Squeteagues or "sea trout"	.....	.....	8,643	795	67,261	6,144	.....	.....
Yellowtail	.....	.....	1,500	60	.....	.....	.....	.....
Total	522,976	29,988	11,493	908	150,099	9,801	123,079	5,928

Species.	Franklin County.		Hillsborough County.		Lee County.		Levy County.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Catfish	24,306	$1,928	.....	.....	.....	.....	.....	.....
Groupers	121,947	5,004	8,389	$336	.....	.....	231,930	$8,277
Grunts	.....	.....	.....	.....	.....	.....	17,250	517
Jewfish	.....	.....	.....	.....	11,280	$226	.....	.....
Porgy	550	22	.....	.....	.....	.....	.....	.....
Sea bass	270	19	.....	.....	.....	.....	.....	.....
Snapper, red	92,390	6,443	8,450	591	.....	.....	29,824	2,087
Squeteagues or "sea trout"	.....	.....	.....	.....	27,725	2,217	3,000	240
Total	239,463	13,416	16,839	927	39,005	2,443	282,004	11,121

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY LINES—Continued.

Species.	Manatee County.		Monroe County.		Pinellas County.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Amberfish			2,000	$80			2,000	$80
Angelfish			800	48			800	48
Barracuda			1,500	30			1,500	30
Bluefish			600	60	2,000	$170	2,600	230
Blue runner or hardtail			9,000	360			9,000	360
Bonito			350	21			350	21
Catfish							24,306	1,928
Cero and kingfish	42,367	$2,542	366,195	25,643	25,537	1,502	437,110	29,927
Cowfish or "shellfish"			300	12			300	12
Crevalle			300	15			300	15
Groupers	24,280	961	50,144	2,649	825,234	29,146	1,451,606	53,829
Grunts	2,287	69	20,300	1,698	25,121	894	75,753	3,200
Hogfish			2,700	162			2,700	162
Jewfish			9,000	540	282	6	26,744	966
Leather jacket or "turbot"			1,500	75	450	18	5,756	277
Moonfish			300	9			300	9
Permit			1,400	64			1,400	64
Pompano			350	70			350	70
Porgy			9,700	582			43,842	1,944
Porkfish			2,400	144			2,400	144
Redfish or red drum							21,120	844
Sailors choice			2,200	110			2,200	110
Sea bass					1,000	40	31,694	2,146
Sergeantfish or snook							2,190	66
Sheepshead							17,850	713
Snapper:								
Mangrove			8,500	510			18,930	926
Mutton			12,000	480			12,000	480
Red			9,000	630	664,446	46,471	1,218,871	82,516
Spanish mackerel			3,900	312			3,900	312
Squeteagues or "sea trout"	22,680	2,162			23,972	1,963	150,281	13,281
Tang			600	30			600	30
Yellowtail			12,500	750			14,000	810
Total	91,614	5,734	537,539	35,084	1,568,042	80,210	3,582,153	195,560

BY OTTER TRAWLS AND DIP NETS.

Apparatus and species.	Escambia.		Franklin.		Monroe.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Otter trawls: Shrimp	28,526	$1,711	2,878,723	$70,996			2,907,249	72,707
Dip nets: Sea crawfish					283,915	$14,164	283,915	14,164
Total	28,526	1,711	2,878,723	70,996	283,915	14,164	3,191,164	86,871

BY TONGS.

Species.	Bay.		Citrus.		De Soto.		Escambia.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oysters, market, public	11,760	$630	35,000	$2,000	7,560	$450	53,536	$3,824

Species.	Franklin.		Lee.		Levy.		Manatee.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oysters, market:								
Public	2,310,560	$102,290	10,500	$600	35,840	$2,048	875	$75
Private					13,496	771		
Total	2,310,560	102,290	10,500	600	49,336	2,819	875	75

Species.	Pinellas.		Santa Rosa.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Oysters, market:						
Public	4,354	$310	53,000	$4,000	2,525,985	$116,227
Private					13,496	771
Total	4,354	310	56,000	4,000	2,539,481	116,998

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY SPONGE APPARATUS.

Species.	Monroe County.		Pinellas County.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Sponges:						
Glove	1,221	$147			1,221	$147
Grass	17,378	1,986	44,070	$8,814	61,448	10,800
Sheepswool	33,068	43,807	220,887	602,769	253,955	646,576
Wire			9,324	2,817	9,324	2,817
Yellow	12,885	3,485	70,164	28,378	83,049	31,863
Total	64,552	49,425	344,445	642,778	408,997	692,203

BY OTHER APPARATUS.

Species.	Bay County.		Franklin County.		Lee County.		Levy County.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish							1,600	$80
Bluefish							5,500	440
Blue runner or hardtail							57,530	1,726
Crevalle							2,150	108
Flounders	1,825	$92	4,000	$320				
King whiting							6,800	408
Menhaden							10,000	500
Pompano							415	63
Redfish or red drum							9,550	478
Sea bass							100	5
Sheepshead							2,000	100
Spanish mackerel							23,615	1,889
Spot							5,000	250
Squeteagues or "sea trout"							19,398	1,552
Terrapin							2,475	206
Clams, hard					159,272	$13,936		
Total	1,825	92	4,000	320	159,272	13,936	146,133	7,805

Species.	Manatee County.		Monroe County.		Pinellas County.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish							1,600	$80
Barracuda			3,360	$202			3,360	202
Bluefish							5,500	440
Blue runner or hardtail							57,530	1,726
Crevalle							2,150	108
Flounders							5,825	412
King whiting							6,800	408
Menhaden							10,000	500
Pompano							415	63
Redfish or red drum							9,550	478
Sea bass							100	5
Sheepshead							2,000	100
Spanish mackerel							23,615	1,889
Spot							5,000	250
Squeteagues or "sea trout"							19,398	1,552
Tarpon			1,800	180			1,800	180
Crabs, stone	2,000	$100			22,500	$2,500	24,500	2,600
Sea crawfish			10,100	500			10,100	500
Terrapin							2,475	206
Clams, hard	1,600	400					160,872	14,336
Conch			2,000	100			2,000	100
Total	3,600	500	17,260	982	22,500	2,500	354,590	26,135

NOTES ON CERTAIN FISHERIES.

THE MULLET FISHERY.—In 1918 the catch of mullet constituted 45.85 per cent of the total quantity and 34.16 per cent of the total value of the fishery products of the west coast of Florida. Although the most important fishery of the Gulf States, its prosecution is confined largely to the west coast of Florida, 25,109,951 pounds, or 87.67 per cent of the total quantity, valued at $1,168,696, or 88.64

per cent of the total value, being accredited to this State. Of the total catch on the west coast of Florida, 22,569,736 pounds, valued at $973,129, was marketed fresh; 2,453,930 pounds, valued at $177,974, salted; and 86,285 pounds, valued at $17,593, represented salted roe. The apparatus of capture, arranged in the order of importance, as indicated by the catch taken, was as follows: Gill nets, 15,340,486 pounds; seines, 5,746,282 pounds; stop nets, 3,055,498 pounds; and trammel nets, 967,685 pounds.

The following table gives the yield of the mullet fishery of the west coast of Florida in various years from 1879 to 1918:

Items.	1879	1880	1889	1890	1895
Mullet:					
Fresh	*Pounds.* 1,058,083	*Pounds.*	*Pounds.* 8,794,586	*Pounds.* 10,650,959	*Pounds.* 12,310,953
Salted	2,504,422		2,728,785	2,968,254	5,714,134
Smoked			4,500	3,200	
Mullet roe:					
Fresh					2,150
Salted	6,662		244,080	298,549	299,061
Total	3,569,167	2,028,250	11,771,951	13,920,962	18,326,298

Items.	1897	1902	[a] 1908	1918
Mullet:				
Fresh	*Pounds.* 11,639,615	*Pounds.* 22,223,685	*Pounds.* [b] 16,008,000	*Pounds.* 22,569,736
Salted	2,503,703	2,589,190		2,453,930
Smoked				
Mullet roe:				
Fresh			[2] 135,000	
Salted	143,999	134,887		86,285
Total	14,287,317	24,947,762	16,143,000	25,109,951

[a] From data published by the Bureau of the Census. [b] Includes fresh and salted.

THE OYSTER FISHERY.—The catch of oysters in 1918 on public grounds was 2,602,446 pounds, or 371,778 bushels, valued at $121,049, and on private beds, 13,496 pounds, or 1,928 bushels, valued at $771. The greater part of the catch, or 341,003 bushels, is credited to Franklin County. Compared with 1911, there has been an increase in the catch of 186,244 bushels, and in the value of $12,348.

A summary of the catch of oysters on the west coast of Florida for various years from 1880 to 1918 is given in the table of comparative statistics of the oyster industry of the Gulf States on page 138.

THE RED SNAPPER FISHERY.—This fishery centers largely at Pensacola, the catch credited to Escambia County being 4,661,984 pounds, or 64.49 per cent of the catch of the west coast of Florida and 49.43 per cent of the catch of the entire Gulf coast. Of the other counties in which this fishery is of importance, Franklin is credited with 655,716 pounds, Bay with 564,139 pounds, and Hillsborough with 353,247 pounds. Compared with 1908, there has been a decrease in the catch of 428,832 pounds and an increase in the value of $23,640. Those engaged in the industry experience considerable difficulty in supplying the demand for this highly prized fish, while the catch of groupers taken with the red snapper exceeds the demand. Reference has been made elsewhere in this report to the Bureau's efforts to increase the demand for groupers to supply markets for all that may be caught, as the future of the red-snapper fishery is, in a measure, dependent upon the accomplishment of this end.

The following summary shows the quantity and value of red snapper caught on the west coast of Florida in certain years:

Year.	Pounds.	Value.	Year.	Pounds.	Value.
1889	3,469,370	$105,557	1902	8,074,066	$237,428
1890	4,172,942	123,799	1908[1]	7,659,000	432,000
1895	4,886,396	154,536	1918	7,230,168	455,640
1897	5,314,487	171,234			

[1] From data published by the Bureau of the Census.

THE SPONGE FISHERY.—The sponge fishery appears to be in a state of equilibrium between the natural supply and the catch, and if it can be so maintained no concern need be felt for the future. There is a superabundance of small sponges, attributed to the gradually returning productiveness of the beds in comparatively shallow water which was depleted by the spongers a number of years ago. If these small sponges were permitted an additional year's growth these formerly exhausted beds would yield a larger quantity, and, owing to the higher value of the larger sizes, a much greater financial return to the spongers.

As landed, sponges are strung on wire or twine in bunches, $4\frac{5}{6}$ feet in length and of an average weight of 6 pounds to the bunch. The weights used in the statistical tables are those taken after the sponges have been beaten and dried before they are baled for shipment. For the different grades these are as follows: Glove, wire, and yellow, each $1\frac{1}{2}$ pounds per bunch; grass and large wool, $2\frac{1}{2}$ pounds per bunch; and small wool, 1 pound per bunch.

The following tables show the extent of the sponge fishery on the Gulf coast of Florida for certain years from 1880 to 1918, and the price per pound for certain years from 1895 to 1918:

Kinds.	1880		1889		1890		1895	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Sheepswool	.....	.....	.....	.....	.....	.....	231,272	$363,107
Yellow	.....	.....	.....	.....	.....	.....	29,509	11,798
Grass	.....	.....	.....	.....	.....	.....	21,387	5,464
Other	.....	.....	.....	.....	.....	.....	23,952	6,502
Total	207,000	$200,750	316,559	$381,087	366,772	$438,682	306,120	386,871

Kinds.	1896		1897		1899		1900	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Sheepswool	149,724	$248,196	157,476	$240,599	153,700	$332,390	181,311	$483,263
Yellow	23,655	9,318	32,362	13,082	55,800	16,205	74,466	44,045
Grass	44,617	11,508	128,622	29,188	76,900	14,319	143,112	33,263
Other	18,315	3,990	13,086	3,171	18,000	5,000	19,236	7,114
Total	236,311	273,012	331,546	286,040	304,400	367,914	418,125	567,685

Kinds.	1901		1902		1908[1]		1918	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Sheepswool	202,673	$422,561	133,518	$297,727	.....	.....	276,168	$675,781
Yellow	62,512	39,290	56,787	31,113	.....	.....	91,641	34,187
Grass	108,748	24,210	140,682	29,765	.....	.....	73,033	12,125
Other	21,627	6,679	15,902	5,817	.....	.....	11,346	3,062
Total	395,560	492,740	346,889	364,422	622,000	$545,000	452,188	725,155

[1] From data published by the Bureau of Census.

Kinds.	Average price per pound.								
	1895	1896	1897	1899	1900	1901	1902	1908 [1]	1918
Sheepswool	$1.57	$1.66	$1.53	$2.16	$2.67	$2.08	$2.23	.....	$2.44
Yellow	.39	.40	.40	.29	.59	.63	.55	.....	.37
Grass	.26	.26	.23	.19	.23	.22	.21	.....	.16
Other	.27	.22	.24	.28	.37	.31	.37	.....	.27
Average	1.26	1.16	.86	1.21	1.36	1.25	1.05	$0.87	1.60

[1] From data published by the Bureau of the Census.

WHOLESALE FISHERY TRADE AND CANNING INDUSTRY.

In 1918 there were 77 wholesale fishery establishments on the west coast of Florida handling fresh and salt fish and oysters, valued at $250,877, with a cash capital amounting to $157,650, in which 455 persons were engaged and $240,030 paid in wages. There were in addition 7 establishments, valued at $300,510, engaged in canning shrimp, oysters, etc., and the preparation of by-products. The number of persons employed in these establishments was 451, and the wages paid amounted to $123,803.

The following table shows the extent of the canning industry, including by-products, on the west coast of Florida in 1918:

SHRIMP AND OYSTER CANNING INDUSTRY, INCLUDING BY-PRODUCTS, ON THE WEST COAST OF FLORIDA IN 1918.

Items.	Number.	Value.	Items.	Number.	Value.
Establishments	7	$300,510	PRODUCTS—continued.		
Cash capital	.....	61,700			
Persons engaged	451	.....	Oysters, canned:		
Wages paid	.....	123,803	No. 1—5 ounces.....cans..	391,056	$40,972
PRODUCTS.			Clams, fish, and turtles, ...cans and bottles..	795,600	100,986
Shrimp, canned:			By-products.....pounds..	446,746	15,611
No. 1—4½ ounces.....cans..	1,922,912	208,423			
No. 1—5 ounces.....do....	973,008	101,355			
No. 1½—8½ ounces....do....	83,280	15,420			
Total	2,979,200	325,198			

FISHERIES OF ALABAMA.

The coastal fisheries of Alabama are less extensive than those of the other Gulf States. In 1918 the number of persons employed in the fisheries of this State was 783, of whom 85 were on fishing vessels, 33 on vessels transporting fishery products, 365 in the shore and boat fisheries, and 300 shoresmen in the wholesale fish establishments and other fishery industries. Compared with 1902, there was a decrease of 315 men, or 28.68 per cent.

The total investment in the fisheries of the State amounted to $334,741, as compared with $328,285 in 1902, representing an increase of 1.96 per cent. The items making up this total included 15 fishing vessels, valued with their outfit at $57,590; 16 transporting vessels, with a value, including outfit, of $21,625; 290 power, sail, and row-boats, valued at $38,190; fishing apparatus in the vessel and shore

fisheries valued at $15,266; shore and accessory property with a value of $178,170; and working cash capital amounting to $23,900.

The products in 1918 amounted to 5,609,219 pounds, with a value of $230,567. Compared with 1902 there was a decrease of 40.01 per cent in the quantity and 13.54 per cent in the value of the products. The species of chief importance were as follows: Mullet, 1,699,530 pounds, valued at $67,818; shrimp, 1,265,612 pounds, valued at $38,828; oysters, 1,031,891 pounds, or 147,413 bushels, valued at $39,670; and red snapper, 798,400 pounds, valued at $49,075.

FISHERIES, BY COUNTIES.

The following table gives, by counties, the number of persons employed, investment, and products of the fisheries of Alabama in 1918:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF ALABAMA IN 1918, BY COUNTIES.

Items.	Baldwin.		Mobile.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessel fishing	.....	.....	85	.....	85	.....
On vessel transporting	15	.....	18	.....	33	.....
Inshore fisheries	117	.....	248	.....	365	.....
Shoresmen	12	.....	288	.....	300	.....
Total	144	.....	639	.....	783	.....
INVESTMENT.						
Vessels fishing:						
Gasoline	.....	.....	11	$31,600	11	$31,600
Tonnage	.....	.....	198	.....	198	.....
Outfit	.....	.....	.....	9,490	.....	9,490
Sail	.....	.....	4	15,000	4	15,000
Tonnage	.....	.....	210	.....	210	.....
Outfit	.....	.....	.....	1,500	.....	1,500
Vessels transporting:						
Gasoline	6	$10,800	5	4,400	11	15,200
Tonnage	60	.....	47	.....	107	.....
Outfit	.....	1,375	.....	1,175	.....	2,550
Sail	1	1,000	4	1,900	5	2,900
Tonnage	10	.....	31	.....	41	.....
Outfit	.....	225	.....	750	.....	957
Sail and row boats	90	2,060	118	4,805	208	6,385
Power boats	8	2,475	74	28,850	82	31,265
Apparatus, vessel fisheries:						
Trammel nets	.....	.....	8	600	8	600
Lines	.....	.....	.....	530	.....	530
Otter trawls	.....	.....	3	120	3	120
Tongs	.....	.....	3	22	3	22
Apparatus, shore fisheries:						
Seines	1	500	2	100	3	600
Trammel nets	91	6,700	47	3,010	138	9,710
Gill nets	6	50	.....	.....	6	50
Otter trawls	.....	.....	43	1,720	43	1,720
Lines	.....	50	.....	40	.....	90
Tongs	24	180	200	1,500	224	1,680
Minor apparatus	.....	47	.....	97	.....	144
Shore and accessory property	.....	885	.....	177,285	.....	178,170
Cash capital	.....	800	.....	23,100	.....	23,900
Total	.....	27,147	.....	307,594	.....	334,741
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish	3,450	$103	3,450	$175	6,900	$278
Black drum	8,775	417	3,425	176	12,200	593
Bluefish	5,000	155	3,750	120	8,750	275
Blue runner or hardtail	1,000	30	10,000	300	11,000	330
Catfish	25,760	573	14,903	329	40,663	902
Croaker	55,800	2,036	37,700	1,216	93,500	3,252
Flounders	14,357	1,146	24,250	1,154	38,607	2,300
Groupers	.....	.....	244,000	10,485	244,000	10,485
Grunts	600	7	2,100	42	2,700	59
Jewfish	.....	.....	2,000	75	2,000	75
King whiting	5,000	144	4,600	168	9,600	312
Mullet:						
Fresh	859,500	33,390	834,020	34,150	1,693,520	67,540
Salted	5,000	225	1,000	50	6,000	275
Roe	.....	.....	10	3	10	3
Pompano	1,341	184	3,625	615	4,966	799

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF ALABAMA IN 1918, BY COUNTIES—Continued.

Items.	Baldwin.		Mobile.		Total.	
PRODUCTS—continued.						
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Redfish or red drum	16,650	$755	6,600	$372	23,250	$1,127
Sea bass			600	30	600	30
Sharks	400	12	200	5	600	17
Sheepshead	15,400	725	12,650	740	28,050	1,465
Snapper, red			798,400	49,075	798,400	49,075
Spanish mackerel	1,934	112	2,350	165	4,284	277
Spot	21,300	822	20,400	601	41,700	1,423
Sturgeon	2,938	125			2,938	125
Sturgeon roe	60	45			60	45
Squeteagues or "sea trout"	36,875	1,746	101,755	4,865	138,630	6,611
Shrimp			1,265,612	38,828	1,265,612	38,828
Crabs, hard	25,800	965	70,050	2,327	[1] 95,850	3,292
Terrapin	763	224	2,175	880	2,938	1,104
Oysters:						
Market, public	15,750	775	635,376	21,915	[2] 651,126	22,690
Market, private	27,300	1,900	163,275	13,585	[3] 190,575	15,485
Seed, public	180,600	1,290	9,590	205	[4] 190,190	1,495
Total	1,331,353	47,916	4,277,866	182,651	5,609,219	230,567

[1] Represents 287,550 in number.
[2] Represents 93,018 bushels.
[3] Represents 27,225 bushels.
[4] Represents 27,170 bushels.

FISHERIES, BY APPARATUS.

The total yield of all forms of apparatus employed in the vessel fisheries, which included lines, trammel nets, otter trawls, and tongs, amounted to 1,335,173 pounds, valued at $75,963. The greater part of this total consisted of red snapper and groupers taken with lines.

In the shore or boat fisheries the catch amounted to 4,204,596 pounds, valued at $152,300. The most productive form of apparatus was the trammel net, the catch consisting of various species, chiefly mullet, amounting to 1,704,540 pounds, valued at $63,815. Otter trawls used in the capture of shrimp ranked second, with a catch of 1,224,574 pounds, valued at $37,616, and tongs used for taking oysters third, with a catch of 1,000,391 pounds, or 142,913 bushels, valued at $38,695.

The following tables give the products of the vessel and shore fisheries, by counties, in 1918:

YIELD OF VESSEL FISHERIES OF ALABAMA IN 1918, BY APPARATUS AND SPECIES.[1]

Species.	Lines.		Trammel nets.		Other trawls.		Tongs.		Total.	
	Lbs.	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*	*Lbs.*	*Value.*
Angelfish			1,200	$120					1,200	$120
Black drum			300	15					300	15
Croaker			9,000	420					9,000	420
Flounders			250	20					250	20
Groupers	244,000	$10,485							244,000	10,485
Jewfish	2,000	75							2,000	75
King whiting			1,500	75					1,500	75
Mullet:										
Fresh			180,020	10,800					180,020	10,800
Salted			1,000	50					1,000	50
Roe			10	3					10	3
Pompano			1,800	450					1,800	450
Redfish or red drum			600	60					600	60
Sharks			300	15					300	15
Sheepshead			1,300	128					1,300	128
Snapper, red	798,400	49,075							798,400	49,075
Spanish mackerel			600	65					600	65
Spot			2,100	105					2,100	105
Squeteagues or "sea trout"			18,255	1,815					18,255	1,815
Shrimp					41,038	$1,212			41,038	1,212
Oysters, market, public							31,500	$975	31,500	975
Total	1,044,400	59,635	218,235	14,141	41,038	1,212	31,500	975	1,335,173	75,963

[1] Vessel fisheries were conducted only in Mobile County in 1918.

YIELD OF SHORE FISHERIES OF ALABAMA IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Baldwin.		Mobile.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:						
Angelfish	1,000	$30	900	$18	1,900	$48
Black drum	5,000	225	375	20	5,375	245
Bluefish	5,000	155	3,750	120	8,750	275
Blue runner or hardtail	1,000	30	10,000	300	11,000	330
Catfish	3,330	60	2,000	28	5,330	88
Croaker	10,000	350	600	12	10,600	362
Flounders	750	35	625	32	1,375	67
Grunts	100	3	100	2	200	5
King whiting	1,000	28			1,000	28
Mullet			12,000	360	12,000	360
Pompano	1,000	145	1,125	90	2,125	235
Redfish or red drum	3,750	170	3,750	210	7,500	380
Sharks			200	5	200	5
Sheepshead	2,500	115	625	35	3,125	150
Spanish mackerel	1,250	70	1,500	84	2,750	154
Spot	2,500	95	300	6	2,800	101
Squeteagues or "sea trout"	6,900	225	6,250	350	13,150	575
Total	45,080	1,736	44,100	1,672	89,180	3,408
Trammel nets:						
Angelfish	2,450	73	1,350	37	3,800	110
Black drum	3,775	192	2,750	141	6,525	333
Catfish	21,930	504	12,503	287	34,433	791
Croaker	45,800	1,686	28,000	780	73,800	2,466
Flounders	1,807	91	2,125	97	3,932	188
Grunts	500	14	2,000	40	2,500	54
King whiting	2,000	56	600	18	2,600	74
Mullet—						
Fresh	858,000	32,940	617,000	22,190	1,475,000	55,130
Salted	5,000	225			5,000	225
Pompano	341	39	700	75	1,041	114
Redfish or red drum	5,400	245	2,250	102	7,650	347
Sharks	400	12			400	12
Sheepshead	12,900	610	10,625	571	23,525	1,181
Spanish mackerel	684	42	250	16	934	58
Spot	18,800	727	18,000	490	36,800	1,217
Squeteagues or "sea trout"	15,725	1,021	10,875	494	26,600	1,515
Total	995,512	38,477	709,028	25,338	1,704,540	63,815
Gill nets:						
Sturgeon	2,938	125			2,938	125
Sturgeon roe	60	45			60	45
Total	2,998	170			2,998	170
Lines:						
Catfish	500	9	400	14	900	23
King whiting	2,000	60	2,500	75	4,500	135
Redfish or red drum	7,500	340			7,500	340
Sea bass			600	30	600	30
Squeteagues or "sea trout"	14,250	500	66,250	2,200	80,500	2,700
Crabs, hard	25,800	965	300	8	26,100	973
Total	50,050	1,874	70,050	2,327	120,100	4,201
Otter trawls: Shrimp			1,224,574	37,616	1,224,574	37,616
Tongs:						
Oysters—						
Market, public	15,750	775	603,876	20,940	619,626	21,715
Market, private	27,300	1,900	163,275	13,585	190,575	15,485
Seed, public	180,600	1,290	9,590	205	190,190	1,495
Total	223,650	3,965	776,741	34,730	1,000,391	38,695
Minor apparatus:						
Croakers			100	4	100	4
Flounders	11,800	1,020	21,250	1,005	33,050	2,025
Mullet	1,500	450	25,000	800	26,500	1,250
Sheepshead			100	6	100	6
Squeteagues or "sea trout"			125	6	125	6
Terrapin	763	224	2,175	880	2,938	1,104
Total	14,063	1,694	48,750	2,701	62,813	4,395
Grand total	1,331,353	47,916	2,873,243	104,384	4,204,596	152,300

WHOLESALE FISHERY TRADE.

In 1918 there were 16 wholesale fish establishments, including 2 engaged in the canning of shrimp and oysters and 1 in crushing oyster shells, valued at $175,850, with a cash or working capital of $23,900, employing 296 persons, to whom wages were paid amounting to $69,676. The output of canned shrimp and oysters and crushed oyster shells is included in the wholesale table for Mississippi.

FISHERIES OF MISSISSIPPI.

In 1918 Mississippi ranked fourth in quantity of fishery products taken and third in the value of the products. The number of persons engaged on fishing and transporting vessels was 667; in the shore fisheries, 673; and in the wholesale establishments, canneries, and other industries, 1,527, representing a total of 2,867.

The investment amounted to $1,433,585, which includes 160 fishing and transporting vessels, valued at $255,875, with a net tonnage of 2,090 tons and outfits valued at $41,065; 603 power and other boats, valued at $99,505; fishing apparatus employed on vessels to the value of $25,598; fishing apparatus employed on boats to the value of $19,383; shore and accessory property valued at $786,109; and cash capital amounting to $206,050.

The products amounted to 20,592,089 pounds, valued at $762,770, a decrease of 2,834,876 pounds, or 12.10 per cent, in quantity and an increase of 209,550, or 37.87 per cent, in value as compared with 1902. The catch of shrimp was 9,147,445 pounds, with a value of $319,595; oysters, 8,906,723 pounds, or 1,272,389 bushels, valued at $307,326; mullet, 1,453,431 pounds, valued at $64,262; squeteagues or "sea trout," 356,070 pounds, valued at $28,874; crabs, 225,025 pounds, valued at $7,882; and redfish, 115,685 pounds, valued at $8,135.

FISHERIES, BY COUNTIES.

The following table shows, by counties, the number of persons employed, the number and value of vessels, boats, and apparatus used, the amount of capital invested, and the quantity and value of the products of the fisheries in 1918:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MISSISSIPPI IN 1918, BY COUNTIES.

Items.	Hancock County.		Harrison County.		Jackson County.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	35		549		17		601	
On vessels transporting			66				66	
In shore fisheries	63		444		166		673	
Shoresmen	154		1,334		39		1,527	
Total	252		2,393		222		2,867	
INVESTMENT.								
Vessels fishing:								
Gasoline			6	$9,300	4	$7,600	10	$16,900
Tonnage			53		34		87	
Outfit				1,565		1,075		2,640
Sail	7	$11,400	108	173,450			115	184,850
Tonnage	113		1,356				1,469	
Outfit		2,400		30,775				33,175

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MISSISSIPPI IN 1918, BY COUNTIES—Continued.

Items.	Hancock County.		Harrison County.		Jackson County.		Total.	
INVESTMENT—continued.								
Vessels transporting:	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
Gasoline			10	$18,500			10	$18,500
Tonnage			124				124	
Outfit				2,195				2,195
Sail			25	35,625			25	35,625
Tonnage			410				410	
Outfit				3,055				3,055
Sail and row boats	75	$2,580	264	15,365	110	$4,040	449	21,985
Power boats			115	58,870	39	18,650	154	77,520
Apparatus, vessel fisheries:								
Trammel nets			2	200	6	600	8	800
Seines	7	1,960	72	17,600			79	19,560
Otter trawls			2	50			2	50
Lines						40		40
Dredges	10	300	161	4,800			171	5,100
Tongs			8	48			8	48
Apparatus, shore fisheries:								
Trammel nets	12	1,200	43	4,300	34	3,400	89	8,900
Seines			15	3,560	4	1,150	19	4,710
Otter trawls			95	2,375	6	150	101	2,525
Lines		80		135		148		363
Tongs	45	225	231	1,155	89	445	365	1,825
Other apparatus		1		999		60		1,060
Shore and accessory property		118,168		642,911		25,030		786,109
Cash capital		23,100		166,150		16,800		206,050
Total		161,414		1,192,983		79,188		1,433,585
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish			600	$30	300	$15	900	$45
Black drum	500	$20	8,760	263	4,517	224	13,777	507
Bluefish			500	40	2,066	150	2,566	190
Catfish			9,220	337	6,888	345	16,108	682
Croaker	5,200	312	23,000	1,135	12,400	470	40,600	1,917
Flounders	2,790	279	19,780	1,581	15,295	1,170	37,865	3,030
Groupers					24,656	863	24,656	863
Jewfish					8,800	288	8,800	288
King whiting	4,000	240	9,100	455	5,417	271	18,517	966
Menhaden			11,050	80			11,050	80
Mullet:								
Fresh	140,000	8,400	199,835	6,596	890,113	31,805	1,229,948	46,801
Salted			112,649	7,885	96,849	7,747	209,498	15,632
Mullet roe, salted			9,430	964	4,555	865	13,985	1,829
Pompano			480	79	3,809	609	4,289	688
Porgies					1,400	49	1,400	49
Redfish or red drum	12,000	960	37,636	2,676	66,049	4,499	115,685	8,135
Sea bass	250	30	2,560	209	1,570	121	4,380	360
Sharks			400	12			400	12
Sheepshead	7,250	725	9,668	705	50,694	3,052	67,612	4,482
Snapper, red					98,232	6,877	98,232	6,877
Spanish mackerel	1,250	125	9,037	741	1,244	100	11,531	966
Spot	4,000	200	11,945	431	3,145	143	19,090	774
Squeteagues or "sea trout"	132,000	13,240	104,748	7,405	119,322	8,229	356,070	28,874
Shrimp	644,800	22,568	8,404,000	293,295	98,645	3,732	9,147,445	319,595
Crabs:								
Hard	25,000	1,500	151,025	3,307	40,000	800	[1] 216,025	5,607
Soft			9,000	2,275			[2] 9,000	2,275
Terrapin	600	450	3,000	1,950	2,000	1,500	5,600	3,900
Turtles			337	20			337	20
Oysters, market:								
Public, from Mississippi beds	751,653	26,168	3,116,379	110,959	88,704	3,959	[3] 3,956,736	141,086
Public, from Louisiana beds			3,546,473	118,328			[4] 3,546,473	118,328
Private, from Mississippi beds			63,532	2,836	20,384	910	[5] 83,916	3,746
Private, from Louisiana beds	311,682	10,389	1,007,916	33,777			[6] 1,319,598	44,166
Total	2,042,975	85,606	16,882,060	598,371	1,667,054	78,793	20,592,089	762,770

[1] Represents 648,075 in number.
[2] Represents 27,000 in number.
[3] Represents 565,248 bushels.
[4] Represents 506,639 bushels.
[5] Represents 11,988 bushels.
[6] Represents 188,514 bushels.

FISHERIES, BY APPARATUS.

The catch of all forms of apparatus employed in the vessel fisheries in 1918 amounted to 13,613,605 pounds, valued at $464,404. The catch of oysters with dredges and tongs amounted to 7,633,983 pounds, or 1,090,569 bushels, valued at $251,011; shrimp, with seines and otter trawls, 5,677,200 pounds, valued at $198,402; various species with trammel nets, 184,407 pounds, with a value of $7,879; and red snapper, groupers, jewfish, and porgies, with lines, 118,015 pounds, valued at $7,112.

The products of the shore or boat fisheries amounted to 6,978,484 pounds, valued at $298,366. The largest quantity was taken with otter trawls, recently introduced in the fishery for shrimp, amounting to 3,248,070 pounds, valued at $113,309. The catch of oysters with tongs, which ranked second, was 1,272,740 pounds, or 181,820 bushels, valued at $56,315. Various species were taken with trammel nets, amounting to 1,108,094 pounds, valued at $60,876; with seines, amounting to 921,199 pounds, valued at $44,000; with lines, 345,943 pounds, valued at $15,353; and with minor appliances, amounting to 82,438 pounds, valued at $8,513.

The following tables give the products of the vessel and shore fisheries in 1918, by counties, apparatus, and species:

YIELD OF VESSEL FISHERIES OF MISSISSIPPI IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Hancock County.		Harrison County.		Jackson County.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Trammel nets:								
Angelfish	.....	.....	.....	.....	100	$5	100	$5
Black drum	.....	.....	560	$17	571	27	1,131	44
Bluefish	.....	.....	.....	.....	200	14	200	14
Croaker	.....	.....	500	25	1,950	67	2,450	92
Flounders	.....	.....	150	12	2,500	175	2,650	187
King whiting	.....	.....	.....	.....	976	49	976	49
Mullet	.....	.....	14,500	450	125,552	4,294	140,052	4,744
Redfish or red drum	.....	.....	8,000	560	8,318	582	16,318	1,142
Sea bass	.....	.....	.....	.....	200	16	200	16
Sheepshead	.....	.....	.....	.....	5,277	370	5,277	370
Spot	.....	.....	.....	.....	1,000	36	1,000	36
Squeteagues or "sea trout"	.....	.....	3,500	350	10,553	830	14,053	1,180
Total	.....	.....	27,210	1,414	157,197	6,465	184,407	7,879
Seines: Shrimp	644,800	$22,568	4,982,400	174,084	.....	.....	5,627,200	196,652
Lines:								
Groupers	.....	.....	.....	.....	23,063	807	23,063	807
Jewfish	.....	.....	.....	.....	8,000	260	8,000	260
Porgies	.....	.....	.....	.....	1,200	42	1,200	42
Snapper, red	.....	.....	.....	.....	85,752	6,003	85,752	6,003
Total	.....	.....	.....	.....	118,015	7,112	118,015	7,112
Otter trawls: Shrimp	.....	.....	50,000	1,750	.....	.....	50,000	1,750
Dredges:								
Oysters, market—								
Public, from Mississippi beds	653,121	21,770	2,339,841	76,744	.....	.....	2,992,962	98,514
Public, from Louisiana beds	.....	.....	3,261,573	105,891	.....	.....	3,261,573	105,891
Private, from Louisiana beds	311,682	10,389	1,001,616	33,402	.....	.....	1,313,298	43,791
Total	964,803	32,159	6,603,030	216,037	.....	.....	7,567,833	248,196
Tongs:								
Oysters, market—								
Public, from Mississippi beds	.....	.....	3,150	190	.....	.....	3,150	190
Public, from Louisiana beds	.....	.....	56,700	2,250	.....	.....	56,700	2,250
Private, from Louisiana beds	.....	.....	6,300	375	.....	.....	6,300	375
Total	.....	.....	66,150	2,815	.....	.....	66,150	2,815
Grand total	1,609,603	54,727	11,728,790	396,100	275,212	13,577	13,613,605	464,404

YIELD OF SHORE FISHERIES OF MISSISSIPPI IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Hancock County.		Harrison County.		Jackson County.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Trammel nets:								
Angelfish			300	$15	100	$5	400	$20
Black drum	500	$20	8,000	240	2,798	140	11,298	400
Bluefish			500	40	300	24	800	64
Catfish			5,220	182	200	10	5,420	192
Croaker	4,000	240	5,700	285	8,350	298	18,050	823
Flounders	540	54	1,700	136	1,795	131	4,035	321
King whiting			3,300	165	2,815	142	6,115	307
Mullet—								
Fresh	140,000	8,400	125,060	4,007	411,674	15,135	676,734	27,542
Salted			10,000	700			10,000	700
Pompano			350	58	90	14	440	72
Redfish or red drum	12,000	960	24,350	1,704	45,182	3,156	81,532	5,820
Sea bass			1,010	75	380	26	1,390	101
Sheepshead	6,000	600	6,300	441	41,790	2,459	54,090	3,500
Spanish mackerel			2,990	299	100	8	3,090	307
Spot	4,000	200	5,700	203	2,145	107	11,845	510
Squeteagues or "sea trout"	88,000	8,800	59,616	4,328	72,639	5,119	220,255	18,247
Terrapin	600	450			2,000	1,500	2,600	1,950
Total	255,640	19,724	260,096	12,878	592,358	28,274	1,108,094	60,876
Seines:								
Angelfish			200	10	100	5	300	15
Black drum			100	3	1,148	57	1,248	60
Bluefish					1,566	112	1,566	112
Catfish			3,000	105	810	41	3,810	146
Croaker			8,500	425	300	15	8,800	440
Flounders			1,350	108	1,400	102	2,750	210
King whiting			1,400	70	1,626	80	3,026	150
Menhaden			10,000	60			10,000	60
Mullet—								
Fresh			42,275	1,419	348,887	12,216	391,162	13,635
Salted			102,649	7,185	96,849	7,747	199,498	14,932
Mullet roe, salted			9,430	964	4,555	865	13,985	1,829
Pompano			50	8	3,669	587	3,719	595
Redfish or red drum			2,486	188	11,749	713	14,235	901
Sea bass			150	10	90	7	240	17
Sheepshead			1,568	120	3,427	207	4,995	327
Spanish mackerel			5,430	395	1,044	84	6,474	479
Spot			5,145	173			5,145	173
Squeteagues or "sea trout"			11,043	765	19,203	1,379	30,246	2,144
Shrimp			220,000	7,775			220,000	7,775
Total			424,776	19,783	496,423	24,217	921,199	44,000
Lines:								
Catfish			800	40	5,878	294	6,678	334
Croaker	1,200	72	6,800	335	1,800	90	9,800	497
Flounders			1,260	116	600	42	1,860	158
Groupers					1,593	56	1,593	56
Jewfish					800	28	800	28
King whiting	4,000	240	3,800	190			7,800	430
Pompano					50	8	50	8
Porgy					200	7	200	7
Redfish or red drum			300	24	800	48	1,100	72
Sea bass	250	30	900	84	900	72	2,050	186
Sheepshead	1,250	125	850	68	200	16	2,300	209
Snapper, red					12,480	874	12,480	874
Spanish mackerel	1,250	125	130	13	100	8	1,480	146
Spot			600	30			600	30
Squeteagues or "sea trout"	44,000	4,440	20,200	1,370	16,927	901	81,127	6,711
Crabs, hard	25,000	1,500	151,025	3,307	40,000	800	216,025	5,607
Total	76,950	6,532	186,665	5,577	82,328	3,244	345,943	15,353
Otter trawls: Shrimp			3,151,600	109,686	96,470	3,623	3,248,070	113,309
Other apparatus:								
Angelfish			100	5			100	5
Black drum			100	3			100	3
Catfish			200	10			200	10
Croaker			1,500	65			1,500	65
Flounders	2,250	225	15,320	1,209	9,000	720	26,570	2,154
King whiting			600	30			600	30
Menhaden			1,050	20			1,050	20
Mullet			18,000	720	4,000	160	22,000	880
Pompano			80	13			80	13
Redfish or red drum			2,500	200			2,500	200
Sea bass			500	40			500	40
Sharks			400	12			400	12

YIELD OF SHORE FISHERIES OF MISSISSIPPI IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Hancock County.		Harrison County.		Jackson County.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Other apparatus—Continued.								
Sheepshead			950	$76			950	$76
Spanish mackerel			487	34			487	34
Spot			500	25			500	25
Squeteagues or "sea trout"			10,389	592			10,389	592
Shrimp					2,175	$109	2,175	109
Crabs, soft			9,000	2,275			9,000	2,275
Terrapin			3,000	1,950			3,000	1,950
Turtles			337	20			337	20
Total	2,250	$225	65,013	7,299	15,175	989	82,438	8,513
Tongs:								
Oysters, market—								
Public, from Mississippi beds	98,532	4,398	773,388	34,025	88,704	3,959	960,624	42,382
Public, from Louisiana beds			228,200	10,187			228,200	10,187
Private, from Mississippi beds			63,532	2,836	20,384	910	83,916	3,746
Total	98,532	4,398	1,065,120	47,048	109,088	4,869	1,272,740	56,315
Grand total	433,372	30,879	5,153,270	202,271	1,391,842	65,216	6,978,484	298,366

WHOLESALE FISHERY TRADE.

There were 29 wholesale fresh-fish establishments in the State in 1918, valued at $59,065, with a cash capital amounting to $31,250, in which 455 persons were engaged and $47,290 paid in wages. In addition to these, there were 21 establishments engaged in canning shrimp and oysters, valued at $723,094, with a cash capital amounting to $174,800. The number of persons engaged in the canning industry was 1,382 and the wages paid amounted to $307,560.

To avoid the disclosure of individual enterprise, the output of canned shrimp and oysters and crushed oyster shells in Alabama has been included in the following table, containing statistics of the canning industry and preparation of by-products for Mississippi:

OYSTER AND SHRIMP CANNING INDUSTRY, INCLUDING BY-PRODUCTS, IN MISSISSIPPI IN 1918.

Items.	Number.	Value.	Items.	Number.	Value.
Establishments	21	$723,094	Shrimp canned:		
Cash capital		174,800	No. 1.....cans..	[2] 6,550,344	$521,484
Persons engaged	1,382		No. 1½.....do....	[2] 449,568	99,872
Wages paid		307,560	Total	6,999,912	621,356
PRODUCTS.			Miscellaneous products..cans..	40,800	14,800
Oysters canned:			Crushed oyster shells (poultry food).....pounds..	[3] 5,320,000	22,080
3 ounces.....cans..	34,632	3,207	Other products.....do....	311,000	8,580
4 ounces.....do....	946,896	95,678			
5 ounces.....do....	[1] 4,004,664	437,628			
6 ounces.....do....	29,880	4,188			
8 ounces.....do....	[1] 917,448	174,391			
10 ounces.....do....	401,472	84,379			
12 ounces.....do....	3,840	960			
Total	6,338,832	800,431			

[1] Includes pack of one firm in Alabama.
[2] Includes pack of two firms in Alabama.
[3] Includes output of one firm in Alabama.

FISHERIES OF LOUISIANA.

Louisiana ranked second among the Gulf States in 1918 in the number of persons engaged, in the investment, and in the value of its fishery products. There were 65 persons employed on fishing vessels, 128 on vessels transporting fishery products, 2,093 in the shore or boat fisheries, and 1,905 on shore in fresh-fish establishments, canneries, etc., totaling 4,191 persons engaged in the fisheries, compared with 5,027 persons in 1902. The decrease was largely in the shore fisheries.

There were 88 fishing and transporting vessels, representing a net tonnage of 765 tons, with a value, including their outfit, of $187,610, and 1,762 power, sail, and row boats, valued at $350,140. The value of the fishing apparatus used in the vessel and shore fisheries amounted to $95,317; the value of the shore and accessory property to $671,621, and the cash capital to $170,500, representing a total investment in the fisheries of the State of $1,475,188, an increase of $685,465, or 86.79 per cent, as compared with 1902.

The products of the fisheries in 1918 aggregated 24,953,876 pounds, valued at $1,419,367. Compared with 1902, there was an increase in the quantity of 199,741 pounds, or 0.80 per cent, and $561,053, or 65.36 per cent, in the value of the products. Among the species of importance mention may be made of the following: Shrimp, 13,315,407 pounds, valued at $649,805; oysters, 7,855,421 pounds, or 1,122,203 bushels, valued at $494,299; squeteagues or "sea trout," 1,190,357 pounds, valued at $110,474; redfish or red drum, 565,899 pounds, valued at $46,945; catfish, 480,420 pounds, valued at $18,955; and croaker, 383,035 pounds, valued at $28,862.

FISHERIES, BY PARISHES OR COUNTIES.

The number of persons employed, the number and value of vessels, boats, and fishing apparatus used, the amount of capital invested, and the quantity and value of the products of the fisheries of Louisiana in 1918 are shown, by counties, in the following table:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF LOUISIANA IN 1918, BY COUNTIES.

Items.	Calcasieu.		Cameron.		Jefferson.		Jefferson Davis.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels transporting	2		2		4			
In shore fisheries	3		15		488		4	
Shoresmen					318			
Total	5		17		810		4	
INVESTMENT.								
Vessels transporting:								
Gasoline					2	$5,000		
Tonnage					12			
Outfit						500		
Sail	1	$500	1	$600				
Tonnage	6		8					
Outfit		50		70				
Sail and row boats	1	30	9	250	97	2,680	1	$30
Power boats	1	500	2	400	137	86,600	1	500
Apparatus, shore fisheries:								
Seines	1	200	1	125	49	17,040	1	500
Trammel nets					6	450		
Lines				20		72		
Otter trawls					69	1,725		
Tongs			7	35	60	270		
Minor apparatus						4		
Shore and accessory property				100		122,615		
Cash capital						40,300		
Total		1,280		1,600		277,256		1,030
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Black drum	500	$25	1,000	$49	14,300	$429	400	$20
Catfish	1,800	90	21,400	1,070	43,263	1,408	1,200	60
Croaker					45,690	3,446		
Flounders					9,800	786		
Mullet					74,411	3,725		
Pompano					610	147		
Redfish or red drum	3,200	156	4,400	352	54,778	4,382	3,200	256
Sea bass					6,600	528		
Sharks					2,000	60		
Sheepshead	2,600	208	2,600	208	20,443	1,685	2,200	176
Spanish mackerel					860	129		
Spot					18,590	929		
Squeteagues, or "sea trout"	4,600	460	5,600	560	198,529	17,152	4,100	410
Yellowtail					2,000	100		
Shrimp, green					6,724,614	236,881		
Squid					560	56		
Crabs, hard					52,350	2,617		
Terrapin					18,000	6,000		
Turtles					4,360	218		
Oysters, market:								
Public			98,406	7,029				
Private					677,124	40,305		
Total	12,700	939	133,406	9,268	7,968,882	320,983	11,100	922

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF LOUISIANA IN 1918, BY COUNTIES—Continued.

Items.	Lafourche.		Orleans.		Plaquemines.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	5		24		3	
On vessels transporting	14		52		4	
In shore fisheries	284		177		296	
Shoresmen	166		522		194	
Total	469		775		497	
INVESTMENT.						
Vessels fishing:						
Gasoline	1	$2,000	5	$10,300	1	$4,000
Tonnage	8		28		5	
Outfit		475		2,000		1,100
Sail			14	16,570		
Tonnage			154			
Outfit				1,200		
Vessels transporting:						
Gasoline	7	9,250	17	42,190	1	4,000
Tonnage	43		144		9	
Outfit		1,405		6,750		300
Sail			3	11,700	1	600
Tonnage			70		9	
Outfit				600		100
Sail and row boats	160	5,500	138	3,960	290	15,705
Power boats	98	27,400	38	13,850	124	57,700
Apparatus, vessel fisheries:						
Seines			12	3,360		
Otter trawls	1	25				
Dredges			15	450		
Tongs	5	35	19	148	3	24
Apparatus, shore fisheries:						
Seines	33	9,740	30	3,100	16	5,200
Trammel nets					16	1,475
Cast nets			115	1,150		
Lines				490		180
Otter trawls	48	1,300			12	300
Tongs	150	750			230	1,323
Minor apparatus				425		
Shore and accessory property		27,507		229,370		67,058
Cash capital		8,500		55,500		20,700
Total		93,887		403,113		179,765
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angel fish			360	$18		
Black drum	5,300	$159	2,800	83	4,600	$138
Catfish	39,243	1,177	9,200	370	20,050	796
Croaker	71,085	4,975	147,700	11,536	42,850	2,774
Flounders	1,200	108	2,500	245	1,250	115
Groupers			20,000	1,000		
Mullet	70,716	3,535	39,600	1,880		
Redfish or red drum	74,066	5,925	50,750	4,052	74,270	5,935
Sea bass	8,100	648	400	40		
Sheepshead	36,868	2,947	34,260	2,663	44,540	3,463
Snapper, red			60,000	4,000		
Spanish mackerel					625	62
Spot	26,985	1,349	2,750	137		
Squeteagues or "sea trout"	100,443	8,038	188,970	18,258	162,450	13,189
Yellowtail	200	10				
Shrimp:						
Green	2,526,907	82,057	947,340	36,282	1,301,000	45,326
Dried					18,375	5,145
Crabs, hard			111,875	3,256	56,000	1,400
Oysters, market:						
Public			88,200	3,930	42,000	2,500
Private	998,340	59,425	577,500	20,900	2,819,852	166,151
Total	3,959,453	170,353	2,284,205	108,650	4,587,862	246,994

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF LOUISIANA IN 1918, BY COUNTIES—Continued.

Items.	St. Bernard.		St. Mary.		St. Tammany.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing			29			
On vessels transporting			28			
In shore fisheries	177		165		4	
Shoresmen			122			
Total	177		344		4	
INVESTMENT.						
Vessels fishing:						
Gasoline			8	$15,400		
Tonnage			86			
Outfit				2,800		
Vessels transporting:						
Gasoline			14	20,500		
Tonnage			101			
Outfit				2,490		
Sail and row boats	81	$2,330	45	1,125	1	$30
Power boats	65	24,600	54	25,850	1	500
Apparatus, vessel fisheries:						
Seines			2	560		
Lines				20		
Dredges			8	240		
Apparatus, shore fisheries:						
Seines	13	5,500	5	500	1	200
Trammel nets	26	2,500				
Lines		70		220		
Otter trawls	12	300				
Tongs	40	200	150	1,200		
Shore and accessory property		1,400		31,874		
Cash capital				8,000		
Total		36,900		110,779		730
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Black drum	13,450	$403	600	$30		
Catfish	23,960	1,088	203,468	8,163		
Croaker	42,440	3,446	2,400	216	9,000	$720
Flounders	2,596	245				
Mullet	97,800	4,890	1,500	75	3,200	160
Pompano	100	20				
Redfish or red drum	109,220	8,737	3,600	324	3,800	304
Sheepshead	29,610	2,392	3,000	270	3,500	280
Spanish mackerel	290	35				
Spot	18,300	915				
Squeteagues, or "sea trout"	173,000	18,011	17,900	1,973	12,000	1,200
Shrimp:						
Green	500,000	19,610			6,000	300
Dried			50,000	12,500		
Crabs, hard	46,700	2,335	15,000	300		
Oysters, market:						
Public	690,648	20,444				
Private	249,879	7,431	307,545	17,988		
Total	1,997,993	90,002	605,013	41,839	37,500	2,964

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF LOUISIANA IN 1918, BY COUNTIES—Continued.

Items.	Terrebonne.		Vermilion.[1]		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	4				65	
On vessels transporting	16		6		128	
In shore fisheries	396		84		2,093	
Shoresmen	583				1,905	
Total	999		90		4,191	
INVESTMENT.						
Vessels fishing:						
Gasoline	1	$5,000			16	$36,700
Tonnage	10				137	
Outfit		500				6,875
Sail					14	16,570
Tonnage					154	
Outfit						1,200
Vessels transporting:						
Gasoline	8	14,000	3	$3,500	52	98,440
Tonnage	46		26		381	
Outfit		1,735		425		13,605
Sail					6	13,400
Tonnage					93	
Outfit						820
Sail and row boats	225	6,750	24	650	1,072	39,040
Power boats	142	67,500	27	5,700	690	311,100
Apparatus, vessel fisheries:						
Seines					14	3,920
Lines						20
Otter trawls					1	25
Dredges	2	60			25	750
Tongs					27	207
Apparatus, shore fisheries:						
Seines	151	28,050	15	1,800	316	71,955
Trammel nets	14	1,050			62	5,475
Cast nets					115	1,150
Lines		50				1,102
Otter trawls	8	200			149	3,825
Tongs	355	2,485	39	196	1,031	6,459
Minor apparatus						429
Shore and accessory property		191,397		300		671,621
Cash capital		37,500				170,500
Total		356,277		12,571		1,475,188
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angel fish					360	$18
Black drum	9,505	$475	2,000	$100	54,455	1,911
Catfish	110,786	4,431	6,050	302	480,420	18,955
Croaker	16,370	1,309	5,500	440	383,035	28,862
Flounders	3,950	395	250	25	21,546	1,919
Garfish, dried	6,500	455			6,500	455
Groupers					20,000	1,000
Mullet	36,925	1,477	1,025	52	325,177	15,794
Pompano	110	17			820	184
Redfish or red drum	175,315	15,778	9,300	744	565,899	46,945
Sea bass					15,100	1,216
Sharks					2,000	60
Sheepshead	90,157	7,212	6,750	540	276,528	22,044
Snapper, red					60,000	4,000
Spanish mackerel					1,775	226
Spot					66,625	3,330
Squeteagues, or "sea trout"	285,515	27,768	37,250	3,455	1,190,357	110,474
Yellow-tail					2,200	110
Shrimp:						
Green	566,000	22,024			12,571,861	442,480
Dried	665,171	312,180	10,000	3,500	743,546	207,325
Squid					560	56
Crabs, hard					[2] 281,925	9,908
Terrapin	5,406	1,578			23,406	7,578
Turtles					4,360	218
Oysters, market:						
Public					[3] 919,254	33,903
Private	1,207,122	141,203	98,805	6,993	[4] 6,936,167	460,396
Total	3,178,832	410,302	176,930	16,151	24,953,876	1,419,367

[1] Includes Iberia Parish.
[2] 93,975 in number.
[3] 131,322 bushels.
[4] 990,881 bushels. In addition to the oysters shown above, 695,153 bushels, valued at $162,494, were taken by Mississippi men from Louisiana beds, and 11,250 bushels, valued at $3,000, were taken by Texas men from Louisiana beds.

FISHERIES, BY APPARATUS.

The different forms of apparatus used in the vessel fisheries of Louisiana, in the order of their importance, based on the value of the catch, were: Seines, with 783,740 pounds of shrimp, valued at $39,702; dredges, with 888,594 pounds of oysters, valued at $35,605; tongs, with 372,750 pounds of oysters, valued at $19,712; lines, with 42,000 pounds of catfish, valued at $1,680; and otter trawls, with 18,500 pounds of shrimp, valued at $740. The total catch of the vessel fisheries amounted to 2,105,584 pounds, valued at $97,439.

The total yield of the shore or boat fisheries amounted to 22,848,292 pounds, valued at $1,321,928. Seines were the most productive form of apparatus used, the catch amounting to 9,600,274 pounds, valued at $601,843. The catch with tongs amounted to 6,594,077 pounds, valued at $438,982; with otter trawls, 5,381,428 pounds, valued at $198,653; with lines, 699,128 pounds, valued at $43,140; with trammel nets, 293,050 pounds, valued at $23,473; with cast nets, 125,500 pounds, valued at $5,075; and with minor apparatus, 154,835 pounds, valued at $10,762.

The products of the vessel and shore fisheries of Louisiana in 1918 are shown in the following tables, by counties, apparatus, and species:

YIELD OF VESSEL FISHERIES OF LOUISIANA IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Lafourche.		Orleans.		Plaquemines.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines: Shrimp, green			733,740	$27,202		
Otter trawls: Shrimp, green	18,500	$740				
Dredges:						
Oysters, market—						
Public			46,200	1,430		
Private			420,000	14,000		
Total			466,200	15,430		
Tongs:						
Oysters, market—						
Public			42,000	2,500	42,000	$2,500
Private	68,250	4,062	157,500	6,900	63,000	3,750
Total	68,250	4,062	199,500	9,400	105,000	6,250
Grand total	86,750	4,802	1,399,440	52,032	105,000	6,250

Apparatus and species.	St. Mary.		Terrebonne.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:						
Shrimp—						
Green					733,740	$27,202
Dried	50,000	$12,500			50,000	12,500
Total	50,000	12,500			783,740	39,702
Otter trawls: Shrimp, green					18,500	740
Lines: Catfish	42,000	1,680			42,000	1,680
Dredges:						
Oysters, market—						
Public					46,200	1,430
Private	307,545	17,988	114,849	$2,187	842,394	34,175
Total	307,545	17,988	114,849	2,187	888,594	35,605
Tongs:						
Oysters, market—						
Public					84,000	5,000
Private					288,750	14,712
Total					372,750	19,712
Grand total	399,545	32,168	114,849	2,187	2,105,584	97,439

YIELD OF SHORE FISHERIES OF LOUISIANA IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Calcasieu.		Cameron.		Jefferson.		Jefferson Davis.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:								
Black drum	500	$25	750	$37	14,300	$429	400	$20
Catfish	1,800	90	1,400	70	40,763	1,308	1,200	60
Croaker					39,490	3,024		
Flounders					1,100	88		
Mullet					70,311	3,520		
Pompano					560	137		
Redfish or red drum	3,200	156	3,400	272	48,778	3,902	3,200	256
Sea bass					6,600	528		
Sharks					2,000	60		
Sheepshead	2,600	208	2,100	168	18,643	1,541	2,200	176
Spanish mackerel					800	120		
Spot					18,390	919		
Squeteagues or "sea trout"	4,600	460	4,100	410	177,529	15,052	4,100	410
Yellowtail					2,000	100		
Shrimp, green					2,928,452	103,169		
Squid					560	56		
Total	12,700	939	11,750	957	3,370,276	133,953	11,100	922
Trammel nets:								
Catfish					1,500	60		
Croaker					5,000	350		
Mullet					4,100	205		
Redfish or red drum					4,500	360		
Sheepshead					900	72		
Spanish mackerel					60	9		
Spot					200	10		
Squeteagues or "sea trout"					12,000	1,200		
Total					28,260	2,266		
Otter trawls: Shrimp, green					3,796,162	133,712		
Lines:								
Black drum			250	12				
Catfish			20,000	1,000	1,000	40		
Croaker					1,200	72		
Flounders					100	10		
Pompano					50	10		
Redfish or red drum			1,000	80	1,500	120		
Sheepshead			500	40	900	72		
Squeteagues or "sea trout"			1,500	150	9,000	900		
Crabs, hard					52,350	2,617		
Total			23,250	1,282	66,100	3,841		
Minor apparatus:								
Flounders					8,600	688		
Turtles					4,360	218		
Terrapin					18,000	6,000		
Total					30,960	6,906		
Tongs:								
Oysters, market—								
Public			98,406	7,029				
Private					677,124	40,305		
Total			98,406	7,029	677,124	40,305		
Grand total	12,700	939	133,406	9,268	7,968,882	320,983	11,100	922

YIELD OF SHORE FISHERIES OF LOUISIANA IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Lafourche.		Orleans.		Plaquemines.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:						
Angelfish			360	$18		
Black drum	5,300	$159	2,200	65	4,500	$135
Catfish	39,243	1,177	8,100	325	13,500	540
Croaker	71,085	4,975	58,100	4,448	34,820	2,248
Flounders	1,200	108	950	95	1,250	115
Mullet	70,716	3,535	39,600	1,880		
Redfish or red drum	74,066	5,925	33,300	2,664	65,525	5,236
Sea bass	8,100	648	400	40		
Sheepshead	36,868	2,947	28,070	2,235	39,520	3,062
Spanish mackerel					350	35
Spot	26,985	1,349	2,750	137		
Squeteagues or "sea trout"	100,443	8,038	92,170	8,482	121,350	10,645
Yellowtail	200	10				
Shrimp—						
Green	1,437,391	47,264	76,100	3,405	1,274,750	44,278
Dried					18,375	5,145
Total	1,871,597	76,135	342,100	23,794	1,573,940	71,439
Trammel nets:						
Black drum					100	3
Catfish					6,550	256
Croaker					8,030	526
Red fish or red drum					8,745	699
Sheepshead					5,020	401
Spanish mackerel					275	27
Squeteagues or "sea trout"					41,100	2,544
Total					69,820	4,456
Otter trawls: Shrimp, green	1,071,016	34,053			26,250	1,048
Cast nets: Shrimp			125,500	5,075		
Lines:						
Black drum			600	18		
Catfish			1,100	45		
Croaker			89,600	7,088		
Flounders			1,550	150		
Groupers			20,000	1,000		
Red fish or red drum			17,450	1,388		
Sheepshead			6,190	428		
Snapper, red			60,000	4,000		
Squeteagues or "sea trout"			96,800	9,776		
Crabs, hard					56,000	1,400
Total			293,290	23,893	56,000	1,400
Minor apparatus:						
Crabs, hard			111,875	3,256		
Shrimp			12,000	600		
Total			123,875	3,856		
Tongs: Oysters, market, private	930,090	55,363			2,756,852	162,401
Grand total	3,872,703	165,551	884,765	56,618	4,482,862	240,744

YIELD OF SHORE FISHERIES OF LOUISIANA IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	St. Bernard.		St. Mary.		St. Tammany.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:						
Black drum	13,152	$394	600	$30		
Catfish	21,960	1,008	2,400	120		
Croaker	33,845	2,707	2,400	216	9,000	$720
Flounders	2,096	197				
Mullet	74,700	3,735	1,500	75	3,200	160
Pompano	100	20				
Red fish or red drum	74,743	5,979	3,600	324	3,800	304
Sheepshead	26,600	2,128	3,000	270	3,500	280
Spanish mackerel	150	18				
Spot	16,300	815				
Squeteagues or "sea trout"	110,400	11,665	17,900	1,973	12,000	1,200
Shrimp, green	122,000	6,110			6,000	300
Total	496,046	34,776	31,400	3,008	37,500	2,964
Trammel nets:						
Black drum	298	9				
Catfish	2,000	80				
Croaker	6,095	489				
Flounders	500	48				
Mullet	23,100	1,155				
Red fish or red drum	33,877	2,710				
Sheepshead	2,110	174				
Spanish mackerel	90	10				
Spot	2,000	100				
Squeteagues or "sea trout"	57,000	5,730				
Total	127,070	10,505				
Otter trawls: Shrimp, green	378,000	13,500				
Lines:						
Catfish			159,068	6,363		
Croaker	2,500	250				
Red fish or red drum	600	48				
Sheepshead	900	90				
Spanish mackerel	50	7				
Squeteagues or "sea trout"	5,600	616				
Crabs, hard	46,700	2,335	15,000	300		
Total	56,350	3,346	174,068	6,663		
Tongs:						
Oysters, market—						
Public	690,648	20,444				
Private	249,879	7,431				
Total	940,527	27,875				
Grand total	1,997,993	90,002	205,468	9,671	37,500	2,964

YIELD OF SHORE FISHERIES OF LOUISIANA IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Terrebonne.		Vermilion.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:						
Angel fish					360	$18
Black drum	7,385	$369	2,000	$100	51,087	1,763
Catfish	110,786	4,431	6,050	302	247,202	9,431
Croaker	14,770	1,181	5,500	440	269,010	19,959
Flounders	500	50	250	25	7,346	678
Garfish, dried	5,300	371			5,300	371
Mullet	36,925	1,477	1,025	52	297,977	14,434
Pompano	110	17			770	174
Red fish or red drum	147,715	13,294	9,300	744	470,627	39,056
Sea bass					15,100	1,216
Sharks					2,000	60
Sheepshead	73,857	5,908	6,750	540	243,708	19,463
Spanish mackerel					1,300	173
Spot					64,425	3,220
Squeteagues or "sea trout"	239,815	23,258	37,250	3,455	921,657	85,048
Yellowtail					2,200	110
Shrimp—						
Green	506,000	19,684			6,350,693	224,210
Dried	615,171	172,180	10,000	3,500	643,546	180,825
Squid					560	56
Terrapin	5,406	1,578			5,406	1,578
Total	1,763,740	243,798	78,125	9,158	9,600,274	601,843
Trammel nets:						
Black drum					398	12
Catfish					10,050	396
Croaker	1,600	128			20,725	1,493
Flounders					500	48
Mullet					27,200	1,360
Red fish or red drum	21,000	1,890			68,122	5,659
Sheepshead	12,100	968			20,130	1,615
Spanish mackerel					425	46
Spot					2,200	110
Squeteagues or "sea trout"	33,200	3,260			143,300	12,734
Total	67,900	6,246			293,050	23,473
Otter trawls:						
Shrimp—						
Green	60,000	2,340			5,331,428	184,653
Dried	50,000	14,000			50,000	14,000
Total	110,000	16,340			5,381,428	198,653
Cast nets: Shrimp					125,500	5,075
Lines:						
Black drum	2,120	106			2,970	136
Catfish					181,168	7,418
Croaker					93,300	7,410
Flounders	3,450	345			5,100	505
Garfish, dried	1,200	84			1,200	84
Groupers					20,000	1,000
Pompano					50	10
Red fish or red drum	6,600	594			27,150	2,230
Sheepshead	4,200	336			12,690	966
Snapper, red					60,000	4,000
Spanish mackerel					50	7
Squeteagues or "sea trout"	12,500	1,250			125,400	12,692
Crabs, hard					170,050	6,652
Total	30,070	2,715			699,128	43,140
Minor apparatus:						
Flounders					8,600	688
Crabs, hard					111,875	3,256
Shrimp					12,000	600
Turtles					4,360	218
Terrapin					18,000	6,000
Total					154,835	10,762
Tongs:						
Oysters, market—						
Public					789,054	27,473
Private	1,092,273	139,016	98,805	6,993	5,805,023	411,50
Total	1,092,273	139,016	98,805	6,993	6,594,077	438,98
Grand total	3,063,983	408,115	[1] 176,930	16,151	22,848,292	1,321,928

[1] Includes the catch of several men living in Iberia County.

WHOLESALE FISHERY TRADE.

There were 35 wholesale establishments in the State of Louisiana in 1918 engaged in handling fresh fish or oysters. The total number of persons employed in these establishments was 622; the amount of wages paid during the year was $224,552; the investment, $168,183; and the cash capital utilized $52,500. Besides these, there were 23 establishments engaged in the canning of shrimp and oysters and in the preparation of by-products, valued at $486,838, using cash capital amounting to $118,000; and employing 1,193 persons, to whom $145,687 were paid in wages during the year. These establishments were distributed as follows: In Jefferson Parish, 9; in Lafourche Parish, 3; in Orleans Parish, 4; in Plaquemines Parish, 3; and in Terrebonne Parish, 4.

The following table contains the statistics of the canning industry and preparation of by-products for Louisiana in 1918:

OYSTER AND SHRIMP CANNING INDUSTRY, INCLUDING BY-PRODUCTS, IN LOUISIANA IN 1918.

Items.	Number.	Value.	Items.	Number.	Value.
Establishments	23	$486,838	PRODUCTS—continued.		
Cash capital		118,000			
Persons engaged	1,193		Shrimp, canned:		
Wages paid		145,687	No. 1 cans	4,686,000	$504,043
PRODUCTS.			No. 1½ do	399,744	86,912
Oysters, canned:			Total	5,085,744	590,955
3 ounces cans	24,048	2,505	Shrimp:		
4 ounces do	157,152	16,719	Dried pounds	603,259	194,388
5 ounces do	[1] 754,408	81,936	Bran do	460,000	10,145
6 ounces do	172,704	24,705	Crushed oyster shells (poultry food) pounds	[2] 6,908,000	39,097
8 ounces do	33,336	7,081			
10 ounces do	51,696	11,615			
12 ounces do	33,168	9,360			
Total	1,226,512	153,921			

[1] Includes a small quantity of 5½-ounce cans put up by a Texas firm.
[2] Includes output of two firms in Texas.

FISHERIES OF TEXAS.

In 1918 Texas ranked second among the Gulf States in the quantity of fishery products and fourth in the number of persons engaged, investment, and value of the products. Compared with 1902, there has been an increase in the number of persons engaged of 742, or 64.86 per cent; in the investment an increase of $516,376, or 138.17 per cent; in the quantity of products an increase of 16,970,356 pounds, or 210.95 per cent; and in their value an increase of $323,429, or 91.41 per cent. The number of persons employed in 1918 on fishing vessels was 357, in the shore and boat fisheries 1,070, and on shore in wholesale establishments 459, totaling 1,886.

The number of fishing vessels was 75, with a total net tonnage of 1,335 tons, valued, with their outfit, at $259,870; the number of boats was 950, valued at $119,320. The value of the fishing apparatus used in the vessel and shore fisheries amounted to $61,262, the value of the shore and accessory property amounted to $413,248, and the working cash capital to $36,400, representing a total investment of $890,100.

The total yield of the fisheries of Texas was 25,014,760 pounds, valued at $677,243. The quantities and values of the principal species were: Black drum, 1,873,436 pounds, valued at $44,394; menhaden, 14,118,340 pounds, valued at $103,080; redfish or red

drum, 1,336,535 pounds, valued at $80,468; red snapper, 1,243,002 pounds, valued at $93,720; squeteagues or "sea trout," 1,613,370 pounds, valued at $119,328; and oysters, 3,344,488 pounds, or 477,784 bushels, valued at $143,610.

FISHERIES, BY COUNTIES.

The following table gives, by counties, the number of persons engaged, the investment, and the products of the fisheries of Texas in 1918:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF TEXAS IN 1918, BY COUNTIES.

Items.	Aransas County.		Brazoria County.		Calhoun County.		Cameron County.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	6				63			
In shore fisheries	150		8		72		112	
Shoresmen	13				128		21	
Total	169		8		263		133	
INVESTMENT.								
Vessels fishing:								
Gasoline					11	$9,800		
Tonnage					86			
Outfit						4,350		
Sail	1	$3,100			16	10,320		
Tonnage	21				116			
Outfit		2,000				3,835		
Boats, sail, row, etc	160	14,380	4	$50	103	9,395	32	$8,730
Boats, power	7	3,200	4	800	8	3,200		
Apparatus, vessel fisheries:								
Seines					12	2,100		
Trammel nets					1	100		
Gill nets					6	90		
Lines		100						
Dredges					2	100		
Tongs					48	182		
Apparatus, shore fisheries:								
Seines	32	3,500			17	1,900	28	5,600
Trammel nets	20	2,575	4	300	20	2,150		
Gill nets	180	5,175			70	750		
Cast nets					11	40	5	17
Fyke nets			4	300				
Lines		25				245		
Spears	27	20			20	14		
Tongs	80	400			56	385		
Minor apparatus		30						
Shore and accessory property		25,025		100		44,275		14,450
Cash capital		3,200				5,000		3,100
Total		62,730		1,550		98,231		31,897
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Black drum	119,000	$4,608			60,589	$2,915	1,083,486	$10,835
Bluefish	1,000	150			538	63		
Catfish	31,800	1,118			58,766	3,397	10,000	300
Croaker	30,375	1,155			15,818	734	15,000	525
Flounders	18,775	1,300			6,873	609	4,500	180
Jewfish							3,000	120
King whiting	565	38			3,496	331		
Mullet	11,625	448			9,000	418	10,000	100
Pompano	4,375	525			3,467	443	300	18
Redfish or red drum	119,250	8,415	11,875	$950	150,959	13,207	722,324	28,892
Sea:								
Bass							5,000	200
Gar	12,500	875			4,124	402	40,000	1,600
Sheepshead	18,750	873			20,938	1,718	20,000	800
Snapper, red	85,000	8,500						
Spanish mackerel	5,000	415			650	85		
Squeteagues or "sea trout"	228,369	22,895	13,750	1,100	186,366	19,120	722,324	28,892
Shrimp					3,500	260	1,500	50
Crabs, hard	384	11			360	11		
Turtles	431	13						
Oysters, market:								
Public	334,243	15,280			1,207,612	50,860	105	27
Private	10,500	480			10,500	525		
Total	1,031,942	67,099	25,625	2,050	1,743,556	95,098	2,637,539	72,539

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF TEXAS IN 1918 BY COUNTIES—Continued.

Items.	Chambers County.		Galveston County.		Harris County.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing			177		4	
In shore fisheries	45		202		100	
Shoresmen	4		60		15	
Total	49		439		119	
INVESTMENT.						
Vessels, fishing:						
Gasoline			9	$32,050	2	$1,000
Tonnage			188		13	
Outfit				9,000		450
Sail			11	61,600		
Tonnage			528			
Outfit				32,225		
Boats, sail, row, etc	30	$450	91	1,670	91	2,035
Boats, power	15	3,000	66	20,100	17	5,100
Apparatus, vessel fisheries:						
Seines			5	2,300	1	75
Lines				940		
Tongs			8	52		
Minor apparatus				1		
Apparatus, shore fisheries:						
Seines	9	900	8	1,835	15	1,800
Trammel nets			11	1,350		
Cast nets			10	35		
Lines		800		555		519
Spears			25	20		
Tongs			70	455	12	78
Minor apparatus		670		4		
Shore and accessory property		500		148,905		8,525
Cash capital		500		9,000		1,400
Total		6,820		322,097		20,982
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish					124	$7
Black drum	400	$20	7,750	$507	8,875	1,251
Catfish	68,100	5,448	16,080	1,011	25,370	1,365
Croaker	300	18	18,750	1,203	5,837	464
Flounders	500	43	7,425	990	1,535	178
Groupers			20,840	843		
Grunts			1,000	100		
Jewfish			27,340	1,534		
King whiting			21,000	2,138	2,950	391
Menhaden			4,574,340	31,500		
Mullet	600	12	2,500	92	11,300	429
Pompano			1,780	398	364	68
Redfish or red drum	1,000	60	26,625	3,265	28,725	3,791
Sheepshead	200	14	12,625	1,273	11,850	1,000
Snapper, red			1,146,002	83,720		
Spanish mackerel			3,750	710	244	37
Squeteagues or "sea trout"	1,500	125	32,125	4,245	41,175	6,170
Shrimp			9,000	719	2,000	175
Crabs:						
Hard			35,000	2,650	157,500	8,000
Soft					700	175
Terrapin					1,350	540
Oysters, market:						
Public			454,230	18,520	118,811	5,657
Private			26,250	2,350		
Total	72,600	5,740	6,444,412	157,049	418,710	29,698

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF TEXAS IN 1918, BY COUNTIES—Continued.

Items.	Jefferson County.		Matagorda County.		Nueces County.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing	54		31		22	
In shore fisheries	45		122		167	
Shoresmen	42		128		41	
Total	141		281		230	
INVESTMENT.						
Vessels fishing:						
Steam	2	$50,000				
Tonnage	217					
Outfit		14,800				
Gasoline	1	2,000	7	$5,235		
Tonnage	12		58			
Outfit		800		2,450		
Sail			10	6,000	5	$4,170
Tonnage			60		36	
Outfit				3,075		1,610
Boats, sail, row, etc	28	705	105	11,405	116	18,300
Boats, power	10	3,900	19	8,700	1	1,000
Apparatus, vessel fisheries:						
Seines	2	2,400	5	1,250	8	1,620
Trammel nets			2	160		
Lines		25		10		
Tongs			31	203	6	39
Apparatus, shore fisheries:						
Seines	7	750	14	2,900	60	8,140
Trammel nets			6	675		
Gill nets			10	100	13	1,100
Cast nets	2	7			100	300
Lines		50		155		500
Spears			25	15	25	25
Tongs	4	25	104	685		
Minor apparatus						6
Shore and accessory property		74,893		36,550		58,775
Cash capital		3,000		4,400		5,900
Total		153,330		83,968		101,485
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Black drum	2,200	$193	68,614	$3,230	514,972	$20,473
Bluefish			500	55		
Catfish	9,470	682	35,001	2,556	3,760	150
Croaker	3,125	290	81,052	3,796	25,000	1,000
Flounders	1,102	136	27,251	2,266	81,000	6,000
Jewfish	4,000	360	625	50	5,000	450
King whiting	600	60	5,813	275	1,000	40
Menhaden	9,544,000	71,580				
Mullet	1,000	60	4,375	135	1,875	45
Pompano			812	100	3,250	430
Redfish or red drum	11,800	1,590	71,500	5,990	170,477	12,110
Sea:						
Bass	1,625	150				
Gar			4,063	327	19,500	1,430
Sheepshead	7,375	749	24,124	1,975	70,500	3,450
Snapper, red	12,000	1,500				
Spanish mackerel			1,250	150	25,360	2,545
Squeteagues or "sea trout"	8,250	1,150	101,461	10,895	235,650	19,961
Shrimp	2,500	265	567	72	145,000	7,250
Terrapin	1,000	350	500	100		
Turtles	2,000	120	240	14	4,000	300
Oysters, market:						
Public	39,375	1,500	1,058,120	44,383	40,586	2,319
Private			4,781	209		
Total	9,651,422	80,735	1,490,649	76,578	1,346,930	77,953

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF TEXAS IN 1918, BY COUNTIES—Continued.

Items.	Orange County.		San Patricio County.		Total.	
PERSONS ENGAGED.	*Number.*	*Value.*	*Number.*	*Value.*	*Number.*	*Value.*
On vessels fishing					357	
In shore fisheries	12		35		1,070	
Shoresmen			7		459	
Total	12		42		1,886	
INVESTMENT.						
Vessels fishing:						
Steam					2	$50,000
Tonnage					217	
Outfit						14,800
Gasoline					30	50,085
Tonnage					357	
Outfit						17,050
Sail					43	85,190
Tonnage					761	
Outfit						42,745
Boats, sail, row, etc	9	$690	21	$210	790	68,020
Boats, power	5	1,250	8	1,050	160	51,300
Apparatus, vessel fisheries:						
Seines					33	9,745
Trammel nets					3	260
Gill nets					6	90
Lines						1,075
Dredges					2	100
Tongs					93	476
Minor apparatus						1
Apparatus, shore fisheries:						
Seines	4	500	3	300	197	28,125
Trammel nets	1	125			62	7,175
Gill nets			6	600	279	7,725
Cast nets			10	35	138	434
Fyke nets					4	300
Lines		10		30		2,889
Spears			14	10	136	104
Tongs	4	25			330	2,053
Minor apparatus						710
Shore and accessory property		100		1,150		413,248
Cash capital				900		36,400
Total		2,700		4,285		890,100
PRODUCTS.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Angelfish					124	$7
Black drum	1,250	$110	6,300	$252	1,873,436	44,394
Bluefish			1,200	150	3,238	418
Catfish	2,800	305	1,500	75	262,647	16,407
Croaker	2,300	230			197,557	9,415
Flounders	400	47	13,000	1,085	162,361	12,834
Groupers					20,840	843
Grunts					1,000	100
Jewfish					39,965	2,514
King whiting	550	55			35,974	3,328
Menhaden					14,118,340	103,080
Mullet	1,000	70			53,275	1,809
Pompano			200	25	14,548	2,007
Redfish or red drum	3,800	560	18,200	1,638	1,336,535	80,468
Sea:						
Bass					6,625	350
Gar			700	63	80,887	4,697
Sheepshead	4,500	450	6,800	340	197,662	12,642
Snapper, red					1,243,002	93,720
Spanish mackerel			5,100	255	41,354	4,197
Squeteagues or "sea trout"	3,400	500	39,000	4,275	1,613,370	119,328
Shrimp					164,067	8,791
Crabs:						
Hard					[1] 193,244	10,672
Soft					[2] 700	175
Terrapin					2,850	990
Turtles					6,671	447
Oysters, market:						
Public	39,375	1,500			[3] 3,292,457	140,046
Private					[4] 52,031	3,564
Total	59,375	3,827	92,000	8,158	25,014,760	677,243

[1] Represents 579,732 in number.
[2] Represents 2,100 in number.
[3] Represents 470,351 bushels and includes 11,250 bushels, valued at $3,000, taken from Louisiana beds.
[4] Represents 7,433 bushels.

FISHERIES, BY APPARATUS.

The catch of all forms of apparatus used in the vessel fisheries amounted to 17,084,241 pounds, with a value of $278,409; in the shore or boat fisheries it amounted to 7,930,519 pounds, valued at $398,834. The catch in the vessel and shore fisheries with seines was 18,930,250 pounds, valued at $325,732; with trammel nets, 424,920 pounds, with a value of $34,773; with gill nets, 165,830 pounds, valued at $14,570; with lines, 1,869,716 pounds, valued at $140,260; and with tongs, 2,980,922 pounds, valued at $128,214. Various other forms of apparatus, such as dredges, cast nets, fyke nets, spears, etc., were employed, but the catch was relatively unimportant.

The products of the vessel and shore fisheries of Texas, by counties, in 1918 are shown in the following tables:

YIELD OF VESSEL FISHERIES OF TEXAS IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Aransas.		Calhoun.		Galveston.		Harris.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:								
Bluefish			63	$7				
Black drum			9,558	483	1,750	$107		
Catfish			6,445	368	745	35	400	$20
Croaker			5,334	245	2,125	130	400	42
Flounders			959	89	125	15	100	11
King whiting			875	48	1,500	138	200	34
Menhaden					4,574,340	31,500		
Mullet			917	41			800	28
Pompano			875	113	280	41	25	4
Redfish or red drum			23,571	2,017	3,375	380	1,700	221
Sea gar			1,459	140				
Sheepshead			7,084	540	2,000	183	600	35
Spanish mackerel			500	65	500	72	20	3
Squeteagues or "sea trout"			22,225	2,280	3,625	425	1,800	270
Shrimp					1,000	79		
Total			79,865	6,436	4,591,365	33,105	6,045	668
Trammel nets:								
Black drum			1,500	70				
Catfish			16	1				
Croaker			37	2				
Mullet			313	15				
Redfish or red drum			2,706	230				
Sheepshead			162	13				
Squeteagues or "sea trout"			5,295	545				
Total			10,029	876				
Gill nets:								
Black drum			750	40				
Redfish or red drum			1,750	165				
Squeteagues or "sea trout"			3,750	385				
Total			6,250	590				
Lines:								
Groupers					20,840	843		
Jewfish					21,340	874		
Snapper, red	85,000	$8,500			1,146,002	83,720		
Total	85,000	8,500			1,188,182	85,437		
Dredges: Oysters, market, public			315,000	12,000				
Tongs: Oysters, market, public			654,031	27,835	73,500	3,220		
Minor apparatus: Flounders					800	125		
Grand total	85,000	8,500	1,065,175	47,737	5,853,847	121,887	6,045	668

YIELD OF VESSEL FISHERIES OF TEXAS IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Jefferson.		Matagorda.		Nueces.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:								
Bluefish			250	$27			313	$34
Black drum			18,035	850	50,000	$1,875	79,343	3,315
Catfish			7,633	525	675	25	15,898	973
Croaker			17,761	832	2,750	110	28,370	1,359
Flounders			1,738	148	3,364	215	6,286	478
King whiting			1,600	76			4,175	296
Menhaden	9,544,000	$71,580					14,118,340	103,080
Mullet			562	27	370	10	2,649	106
Pompano			406	50	114	13	1,700	221
Redfish or red drum			20,875	1,717	9,167	550	58,688	4,885
Sea gar			1,938	155	1,435	90	4,832	385
Sheepshead			7,937	642	2,750	130	20,371	1,530
Spanish mackerel			625	75	88	10	1,733	225
Squeteagues or "sea trout"			27,543	2,932	14,665	1,100	69,858	7,007
Shrimp			283	36			1,283	115
Terrapin			250	50			250	50
Turtles			120	7			120	7
Total	9,544,000	71,580	107,556	8,149	85,378	4,128	14,414,209	124,066
Trammel nets:								
Black drum			625	30			2,125	100
Catfish			1,920	130			1,936	131
Croaker			406	19			443	21
King whiting			375	18			375	18
Mullet							313	15
Redfish or red drum			1,125	98			3,831	328
Sheepshead							162	13
Squeteagues or "sea trout"			1,750	195			7,045	740
Total			6,201	490			16,230	1,366
Gill nets:								
Black drum							750	40
Redfish or red drum							1,750	165
Squeteagues or "sea trout"							3,750	385
Total							6,250	590
Lines:								
Catfish			1,670	110			1,670	110
Groupers							20,840	843
Jewfish	4,000	360					25,340	1,234
Snapper, red	12,000	1,500					1,243,002	93,720
Total	16,000	1,860	1,670	110			1,290,852	95,907
Dredges: Oysters, market, public							315,000	12,000
Tongs: Oysters, market, public			302,869	12,700	10,500	600	1,040,900	44,355
Minor apparatus: Flounders							800	125
Grand total	9,560,000	73,440	418,296	21,449	95,878	4,728	17,084,241	278,409

YIELD OF SHORE FISHERIES OF TEXAS IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Aransas.		Brazoria.		Calhoun.		Cameron.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:								
Black drum	88,750	$3,450			20,037	$972	1,083,486	$10,835
Bluefish	1,000	150			125	14		
Catfish	19,300	675			5,300	306	10,000	300
Croaker	27,625	1,050			5,979	276	15,000	525
Flounders	5,650	400			1,604	138	4,500	180
Jewfish							3,000	120
King whiting	565	38			1,156	96		
Mullet	8,750	335			2,646	122	10,000	100
Pompano	4,375	525			1,625	209	300	18
Redfish or red drum	86,250	6,100			46,114	3,953	722,324	28,892
Sea—								
Bass							5,000	200
Gar	10,000	700			2,603	257	40,000	1,600
Sheepshead	15,625	725			6,479	540	20,000	800
Spanish mackerel	2,500	200			119	16		
Squeteagues or "sea trout"	142,115	15,550			44,581	4,625	722,324	28,892
Total	412,505	29,898			138,368	11,524	2,635,934	72,462
Trammel nets:								
Bluefish					350	42		
Black drum	28,125	1,075			28,619	1,345		
Catfish	5,000	175			3,390	192		
Croaker	2,750	105			3,278	156		
Flounders					1,185	97		
King whiting					1,187	90		
Mullet	2,875	113			5,124	240		
Pompano					688	87		
Redfish or red drum	20,000	1,400	10,000	$800	66,818	5,978		
Sea gar	2,500	175			62	5		
Sheepshead	3,125	148			7,213	625		
Spanish mackerel					31	4		
Squeteagues or "sea trout"	41,629	3,500	11,250	900	91,515	9,375		
Total	106,004	6,691	21,250	1,700	209,460	18,236		
Gill nets:								
Black drum	2,125	83						
Catfish	7,500	268			1,085	65		
Croaker					1,190	55		
King whiting					278	97		
Pompano					279	34		
Redfish or red drum	10,500	745			5,250	440		
Squeteagues or "sea trout"	33,750	2,900			8,750	855		
Total	53,875	3,996			16,832	1,546		
Cast nets: Shrimp					3,500	260	1,500	50
Fyke nets:								
Redfish or red drum			1,875	150				
Squeteagues or "sea trout"			2,500	200				
Total			4,375	350				
Lines:								
Black drum					125	5		
Catfish					42,530	2,465		
Redfish or red drum	2,500	170			4,750	424		
Spanish mackerel	2,500	215						
Squeteagues or "sea trout"	10,875	945			10,250	1,055		
Crabs, hard	384	11			360	11		
Total	16,259	1,341			58,015	3,960		
Spears: Flounders	13,125	900			3,125	285		
Minor apparatus:								
Turtles	431	13						
Oysters, market, public							105	27
Total	431	13					105	27
Tongs:								
Oysters, market—								
Public	334,243	15,280			238,581	11,025		
Private	10,500	480			10,500	525		
Total	344,743	15,760			249,081	11,550		
Grand total	946,942	58,599	25,625	2,050	678,381	47,361	2,637,539	72,539

YIELD OF SHORE FISHERIES OF TEXAS IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Chambers.		Galveston.		Harris.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:						
Angel fish					124	$7
Black drum	400	$20	3,125	$200	8,250	1,205
Catfish	100	8	1,670	80	5,000	265
Croaker	300	18	7,500	480	5,125	398
Flounders	500	43	500	64	1,125	131
King whiting			6,000	500	2,750	357
Mullet	600	12	1,000	45	10,500	401
Pompano			100	19	339	64
Redfish or red drum	1,000	60	8,750	1,050	19,525	2,570
Sheepshead	200	14	2,500	250	9,375	805
Spanish mackerel			125	19	224	34
Squeteagues or "sea trout"	1,500	125	10,000	1,280	20,625	3,100
Shrimp					2,000	175
Terrapin					1,350	540
Total	4,600	300	41,270	3,987	86,312	10,052
Trammel nets:						
Black drum			1,875	120		
Catfish			335	16		
Croaker			8,750	560		
Flounders			250	32		
King whiting			6,250	625		
Mullet			1,500	47		
Pompano			200	38		
Redfish or red drum			10,625	1,275		
Sheepshead			3,125	315		
Spanish mackerel			125	19		
Squeteagues or "sea trout"			11,250	1,440		
Total			44,285	4,487		
Cast nets: Shrimp			8,000	640		
Lines:						
Black drum			1,000	80	625	46
Catfish	68,000	5,440	13,330	880	19,970	1,080
Croaker			375	33	312	24
Flounders			750	114	310	36
Grunts			1,000	100		
Jewfish			6,000	660		
King whiting			7,250	875		
Pompano			1,200	300		
Redfish or red drum			3,875	560	7,500	1,000
Sheepshead			1,250	150	1,875	160
Spanish mackerel			5,000	600		
Squeteagues or "sea trout"			7,250	1,100	18,750	2,800
Crabs, hard			32,000	2,400	157,500	8,000
Total	68,000	5,440	78,280	7,852	206,842	13,146
Spears:						
Flounders			5,000	640		
Sheepshead			3,750	375		
Total			8,750	1,015		
Minor apparatus:						
Crabs—						
Hard			3,000	250		
Soft					700	175
Oysters, market, private			18,375	1,650		
Total			21,375	1,900	700	175
Tongs:						
Oysters, market—						
Public			380,730	15,300	118,811	5,657
Private			7,875	700		
Total			388,605	16,000	118,811	5,657
Grand total	72,600	5,740	590,565	35,881	412,665	29,030

YIELD OF SHORE FISHERIES OF TEXAS IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Jefferson.		Matagorda.		Nueces.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:						
Black drum	1,500	$132	46,829	$2,200	461,972	$18,478
Bluefish			250	28		
Catfish	2,800	237	13,100	895	3,085	125
Croaker	3,000	280	60,729	2,843	22,250	890
Flounders	537	63	4,138	352	27,636	1,785
King whiting	600	60	3,400	160	1,000	40
Mullet	1,000	60	563	27	1,505	35
Pompano			406	50	3,136	417
Redfish or red drum	5,500	750	36,625	3,083	146,710	10,330
Sea—						
Bass	1,625	150				
Gar			2,125	172	18,065	1,340
Sheepshead	6,250	625	15,812	1,303	22,750	1,070
Spanish mackerel			625	75	272	35
Squeteagues or "sea trout"	5,125	700	59,043	6,383	172,985	14,061
Shrimp	1,500	185	284	36	5,000	250
Terrapin	1,000	350	250	50		
Turtles	2,000	120	120	7	1,000	150
Total	32,437	3,712	244,299	17,664	887,366	49,006
Trammel nets:						
Black drum			2,500	120		
Catfish			335	20		
Croaker			1,656	79		
Flounders			125	11		
King whiting			375	18		
Mullet			3,250	81		
Redfish or red drum			4,875	395		
Sheepshead			375	30		
Squeteagues or "sea trout"			9,250	955		
Total			22,741	1,709		
Gill nets:						
Black drum					3,000	120
Catfish			335	21		
Croaker			500	23		
King whiting			63	3		
Redfish or red drum			1,000	86	9,600	780
Squeteagues or "sea trout"			1,375	150	43,000	4,250
Total			3,273	283	55,600	5,150
Cast nets: Shrimp	1,000	80			140,000	7,000
Lines:						
Black drum	700	61	625	30		
Catfish	6,670	445	10,008	855		
Croaker	125	10				
Flounders	565	73				
Jewfish			625	50	5,000	450
Redfish or red drum	6,300	840	7,000	611	5,000	450
Sheepshead	1,125	124			45,000	2,250
Spanish mackerel					25,000	2,500
Squeteagues or "sea trout"	3,125	450	2,500	280	5,000	550
Total	18,610	2,003	20,758	1,826	85,000	6,200
Spears: Flounders			21,250	1,755	50,000	4,000
Minor apparatus:						
Turtles					3,000	150
Oysters, market, public					30,086	1,719
Total					33,086	1,869
Tongs:						
Oysters, market—						
Public	39,375	1,500	755,251	31,683		
Private			4,781	209		
Total	39,375	1,500	760,032	31,892		
Grand total	91,422	7,295	1,072,353	55,129	1,251,052	73,225

YIELD OF SHORE FISHERIES OF TEXAS IN 1918 BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Orange.		San Patricio.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Seines:						
Angel fish					124	$7
Black drum	1,000	$88	5,300	$212	1,720,649	37,792
Bluefish			200	30	1,575	222
Catfish	1,000	110	500	25	61,855	3,026
Croaker	1,500	150			149,008	6,910
Flounders	250	30	1,000	85	47,440	3,271
Jewfish					3,000	120
King whiting	400	40			15,871	1,291
Mullet	1,000	70			37,564	1,207
Pompano			200	25	10,481	1,327
Redfish or red drum	2,400	350	7,200	648	1,082,398	57,786
Sea—						
Bass					6,625	350
Gar			700	63	73,493	4,132
Sheepshead	3,000	300	800	40	102,791	6,472
Spanish mackerel			100	5	3,965	384
Squeteagues or "sea trout"	2,400	350	4,000	440	1,184,698	75,506
Shrimp					8,784	646
Terrapin					2,600	940
Turtles					3,120	277
Total	12,950	1,488	20,000	1,573	4,516,041	201,666
Trammel nets:						
Bluefish					350	42
Black drum	250	22			61,369	2,682
Catfish	300	30			9,360	433
Croaker	800	80			17,234	980
Flounders	150	17			1,710	157
King whiting	150	15			7,962	748
Mullet					12,749	481
Pompano					888	125
Redfish or red drum	800	120			113,118	9,968
Sea gar					2,562	180
Sheepshead	1,500	150			15,338	1,268
Spanish mackerel					156	23
Squeteagues or "sea trout"	1,000	150			165,894	16,320
Total	4,950	584			408,690	33,407
Gill nets:						
Black drum			1,000	40	6,125	243
Bluefish			1,000	120	1,000	120
Catfish					8,920	354
Croaker					1,690	78
King whiting					341	100
Pompano					279	34
Redfish or red drum			8,000	720	34,350	2,771
Sheepshead			1,000	50	1,000	50
Squeteagues or "sea trout"			19,000	2,075	105,875	10,230
Total			30,000	3,005	159,580	13,980
Cast nets:						
Spanish mackerel			5,000	250	5,000	250
Shrimp					154,000	8,030
Total			5,000	250	159,000	8,280
Fyke nets:						
Redfish or red drum					1,875	150
Squeteagues or "sea trout"					2,500	200
Total					4,375	350
Lines:						
Black drum					3,075	222
Catfish	1,500	165	1,000	50	163,008	11,380
Croaker					812	67
Flounders					1,625	223
Grunts					1,000	100
Jewfish					11,625	1,160
King whiting					7,250	875
Pompano					1,200	300
Redfish or red drum	600	90	3,000	270	40,525	4,415
Sheepshead			5,000	250	54,250	2,934
Spanish mackerel					30,500	3,315
Squeteagues or "sea trout"			16,000	1,760	73,750	8,940
Crabs, hard					190,244	10,422
Total	2,100	255	25,000	2,330	578,864	44,353

YIELD OF SHORE FISHERIES OF TEXAS IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Orange.		San Patricio.		Total.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Spears:						
Flounders	.....	.....	12,000	$1,000	104,500	$8,580
Sheepshead	.....	.....	.....	.....	3,750	375
Total	.....	.....	12,000	1,000	108,250	8,955
Minor apparatus:						
Crabs—						
Hard	.....	.....	.....	.....	3,000	250
Soft	.....	.....	.....	.....	700	175
Turtles	.....	.....	.....	.....	3,431	163
Oysters, market—						
Public	.....	.....	.....	.....	30,191	1,746
Private	.....	.....	.....	.....	18,375	1,650
Total	.....	.....	.....	.....	55,697	3,984
Tongs:						
Oysters, market—						
Public	39,375	$1,500	.....	.....	1,906,366	81,945
Private	.....	.....	.....	.....	33,656	1,914
Total	39,375	1,500	.....	.....	1,940,022	83,859
Grand total	59,375	3,827	92,000	8,158	7,930,519	398,834

WHOLESALE FISHERY TRADE.

The wholesale trade in fishery products in Texas in 1918 was conducted by 35 establishments, one of which canned a small quantity of oysters in addition to handling fresh fish and raw oysters; two produced crushed oyster shells, lime, and dust; and two were engaged in the manufacture of dried scrap and oil from menhaden, the remainder dealing principally in fresh fish and oysters. The wholesale establishments were valued at $396,288, used cash capital to the amount of $36,400, and employed 450 persons, to whom $150,330 were paid in wages during the year. In addition to the pack of oysters and the crushing of oyster shells for poultry food, which are included under Louisiana, other products having a value of $215,169 were prepared.

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